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In Saturn's Rings: When Will It Be Finished?

by Stephen van Vuuren

Everything comes gradually and at its appointed hour. —Ovid

For years now, almost with exception, every time I see, e-mail, or talk on the phone a friend, colleague, or family member, sooner or later the Question is asked. The Question is something that hangs in the air — this Question that good friends feel almost loath to ask but still can't help themselves.

"So when will the film be done?" or the other variations "How's the film going?" "Any news on the film?"

Sometimes it's incredibly refreshing to talk to strangers — anyone who has never heard about the film, just to talk without the Question existing. I'm not playing a victim card here. It's an incredible privilege to work on a first-in-history project that so many people eagerly anticipate.

*(see **SATURN** on page 6)*

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Scriptwriting for Immersive Screens

by Michael Daut

This article is adapted from a talk given at the 2015 IMERSA Summit. For more on the summit, see article on page 10.

What's the big deal about writing a script for a fulldome or giant-screen show? It's just putting stuff on a page, right? How hard can it be? This article will look at the process.

There's an ancient adage: a picture is worth a thousand words. I'd like to propose that a fulldome picture is worth at least 10,000 words. A dome is typically the largest canvas you'll work with, because a 60-foot (18-meter) dome — the lower limit to officially be considered a "giant screen" — has the same surface area as a giant flat screen 60 by 90 feet (18 by 26 meters), far larger than the average giant-screen theater.

The images in our shows are truly immersive. They are a huge canvas that the audience is brought inside. The audience is transported to another place, and filling it with words is a distraction. You don't need to overwrite for immersive media. I learned early on that words are cheap, and producing is expensive.

It is very easy to write something like, "a giant armada of spaceships appears over the horizon, dropping bombs across the surface. Buildings collapse under their own weight, and people scream through the streets as giant lasers vaporize them into dust." That takes you maybe five minutes to write, but it's going to cost you millions of dollars to produce. If you're not careful, you can create something un-

*(see **WRITING** on page 11)*

How I Taught Astronauts to Film *A Beautiful Planet*

by James Neihouse

A Beautiful Planet *is the seventh giant-screen film shot in space by astronauts, and continues Imax Corporation's association with NASA that began in 1984, when IMAX cameras were first flown in space.*

Directed by **Toni Myers**, with me serving as DP, ***A Beautiful Planet*** is a follow-up to our 1990 IMAX documentary ***Blue Planet***. It looks at Earth from the vantage of astronauts aboard the International Space Station (ISS), an unusually expansive perspective that reveals the effect humanity has had on the planet.

The idea of taking IMAX cameras to space originated with **Michael Collins**, the command module pilot for Apollo 11. Collins was director of the **Smithsonian Institution**'s **National Air and Space Museum** in Washington, DC, when the facility opened in 1976 with one of the first IMAX screens. After seeing the power and immersive quality of the giant-screen images, Collins suggested to **Imax Corporation** co-founder **Graeme Ferguson** that the best way to share the experience of space flight with the general public would be to fly an IMAX camera on NASA's yet-to-be launched Space Shuttle.

It would be five years before the Shuttle

*(see **NEIHOUSE** on page 16)*

Premiering in May and June

Captain America: Civil War
Alice Through the Looking Glass
Warcraft
Finding Dory
Independence Day: Resurgence
Global Soundscapes

See page 19.

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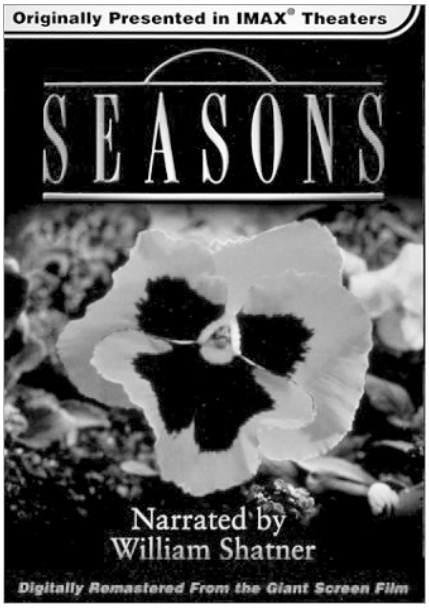
Letter to the Editor

Dear sir,

As you know, I attended the **IMERSA Summit** in Denver in March, where **Greg MacGillivray** was presented with a Lifetime Achievement Award. At the ceremony, they played a video by Greg called "How I Learned to Stop Worrying and Love the Dome." (The video was also shown at the **Giant Screen Cinema Association** conference's Dome Day in San Jose, CA, last fall.)

In the video, Greg said that the first giant-screen film made specifically for the dome was ***To The Limit***, which **MacGillivray Freeman Films** made in 1989. With all due respect to my good friend Greg, this needs to be corrected.

I remember seeing two very early computer animated giant-screen films at meetings of the **International Space Theater Consortium** (predecessor of the GSCA) in the mid-1980s: ***The Magic Egg,*** made for the **SIGGRAPH** conference in 1984, which included dome sequences and was shown in the OMNIMAX theater at the **Science Museum of Minnesota** (SMM); and ***We Are Born of Stars***, screened at EXPO '85 in Tsukuba, Japan. Professors **Nelson Max** (now at UC Davis) and **Richard Weinberg** (USC) were key creators of those films.



Seasons, a giant-screen film I directed and produced through **Graphic Films** for SMM, was released in 1987 and was the first live-action film made for giant-screen dome theaters. At an early production meeting, director of photography **David Douglas** asked SMM executive producer **Mike Day** and me if we were making a flat-screen film or a dome film, since SMM's theater was an OMNIMAX dome. Mike did a quick review of the number of theaters in the institutional marketplace and noted there were more dome screens than flat screens, so we decided right from the start that every shot in *Seasons* would be designed from the center outward and positioned for best viewing in dome theaters. All of the OMNIMAX theaters in the **Museum Film Network** joined in funding *Seasons*. The film also flattened out quite well for IMAX screens.

Greg's *To The Limit* (1989) was the next film funded by the Museum Film Network and was his first dome film.

Echoes Of The Sun, made a year later for the **Fujitsu Pavilion** at EXPO '90 in Osaka, is, as far as I know, the only live-action dome film shot in 15/70 3D, a format **Imax Corporation** branded as "Solido."

That same year, 1990, MacGillivray Freeman Films' **Stephen Judson** directed ***Homeland***, about the history of Singapore, for the OMNIMAX theater at the **Singapore Science Center**, another film shot entirely for the dome.

Tropical Rainforest, which I directed in 1992 through **Shedd Productions** for SMM, may have been the last GS film in which every shot was designed specifically for dome theaters. Others since then have included some dome shots, and a handful actually had separate dome versions, in which fisheye shots replaced select scenes, but most have been made as a compromise between dome and flat screens, as the latter became more popular in museums and science centers.

Today, with a world of digital fulldome theaters, there is much new work being done in designing immersive stories on giant dome screens, to say nothing of virtual reality.

— Ben Shedd

P.S. While doing this survey, I was interested to note that the Fujitsu company sponsored — and Imax co-founder **Roman Kroitor** produced — the two 3D dome movies made in the GS format: *We Are Born of Stars* and *Echoes of the Sun*. I learned a great deal from seeing *We Are Born of Stars,* with its anaglyph 3D animations immersed and surrounded in black, all designed from the center out.

Ben Shedd is a filmmaker whose 1978 film, The Flight of the Gossamer Condor, *won the Academy Award for best documentary short. He is now a professor at Nanyang Technological University in Singapore. Ben's research,* Exploding The Frame, *on designing for domes and immersive screens, is online at tinyurl.com/explodedframe. He can be reached at sheddprods@aol.com.*

Imax Demos Laser Dome System in St. Paul

In mid-May, **Imax Corporation** hosted representatives from about 20 IMAX Dome theaters at a one-day demonstration of a preliminary version of its laser projection system for domes at the **Science Museum of Minnesota** in St. Paul. The system used only one projector, rather than the two that are envisioned for the final system, and did not have a lens capable of filling the theater's 90-foot (27-meter) dome. Thus, the projected image didn't extend to the full width or height of the screen, filling only about 60% of the dome's surface.

Photo by Richie Diesterheft. (CC by 2.0)

Science Museum of Minnesota

Unlike the film-based IMAX Dome system, which features a single projector in the center of the dome, the laser-based IMAX Dome system will place two projectors in the rear gallery, behind the audience. This arrangement poses technical challenges, because the variability in the configuration of IMAX Dome theaters means that many aspects of the system, particularly lenses, will have to be customized for each installation. Although Imax reportedly asked some dome clients last year whether they would consider a single-projector solution in the center of the dome, the decision was made to keep the original configuration, because it provided the best possible image quality.

In St. Paul, participants were shown a seven-minute clip from SMM's film ***The Greatest Places*** (1998) on 15/70 film, after which the same footage was run on the digital system. Test charts were also projected to highlight the laser system's resolution and contrast. The laser system produced a reported 3.75 foot-Lamberts with only one projector; the standard for IMAX film on domes is 2 fL. Attendees were allowed to visit the booth to see the massive projectors. (Although only one projector was used, both were installed because DCI encryption requires that they remain in communication with each other while operating.)

People who attended the demo told *LF Examiner* that the laser image looked very good, with the brightness, contrast, and sharpness they expected to see, and that it matched or surpassed the film image in those respects. One participant said that even though the system wasn't complete, he appreciated Imax showing clients what it had, to reassure them that it was on its way.

However, the Imax reps present — including sales VP **Mike Lutz**, chief quality officer **David Keighley**, and chief technical officer **Brian Bonnick** — didn't answer the biggest question everyone there had: When? When Imax first announced its laser system, the company claimed the dome system would roll out about a year after the flat-screen system, which premiered in late 2014. Today there are more than 20 installed worldwide.

It had long been known that St. Paul would be the site of the first IMAX laser dome installation, which was expected by the end of 2015. The system installed for the demo is not remaining there.

One person at the May demo told *LFX* that his hunch was that Imax's dome system may not be ready before 2017, and perhaps not until 2018.

In the meantime, to make up for the delay, Imax has said that its existing dome clients will no longer be charged print fees for Imax-distributed titles.

Imax may have decided to show an unfinished system at this time to reassure customers that it is on track, and to slow the defection of IMAX theaters to competing systems, including digital fulldome providers like **Evans & Sutherland** and **Sky-Skan**. (*See item in The Biz on page 4.*)

Another rival, **D3D Cinema**, announced a year ago that it was partnering with **Christie** to provide a single-projector laser solution mounted in the center of the dome, like the IMAX film projector. Imax may be comforted somewhat by the fact that that system, which D3D said it would demo last fall and roll out by end of 2015, has also been delayed, with no new launch date announced. A demo D3D had scheduled for early this year was canceled.

Domes are hard.

Corrections

In the April issue, "New Film Presented for the First Time" on page 9 reported the running time for ***Asteroid: Mission Extreme*** as 40 minutes. It's actually 25 minutes. Also, **Sky-Skan** should be listed alongside **National Geographic** as co-producer.

Imax announces VR plans

Imax Corporation has announced a major move into virtual reality, including plans to open VR centers in multiplexes and other locations, deals for content that apparently include the ***John Wick*** video game from **Lionsgate** and projects from action film director **Michael Bay**, and a partnership with **Google** to develop a "cinema-grade" VR camera system that uses the Google Jump platform.

In a May 20 press release, the company said it had signed an agreement with **Starbreeze AB**, a Swedish developer of VR content and hardware, under which Imax will use Starbreeze's StarVR headsets in its new VR sites. StarVR uses two quad-HD display panels (each 2560x1440 pixels) for a 5K panoramic image with a 210-degree field of view, much wider than most other VR systems. In the press release, Imax CEO **Richard Gelfond** described StarVR's field of view as "IMAX-like." Starbreeze has in turn made a deal with Taiwanese electronics firm Acer to provide the hardware.

At a presentation in Boston, Gelfond explained that after a feature, exhibitors would offer a 7- to 10-minute VR experience themed to the film. After a *Star Wars* screening, for instance, "you'd go to a different place in the multiplex and put on VR glasses and you would fly the Millennium Falcon or see how many stormtroopers you can shoot." He predicted that with 15–20 VR "pods," a theater's VR arcade could gross almost as much as its IMAX auditorium, about $1.1 million per year.

He added that the company has no plans to offer home VR systems.

Gelfond told the *Wall Street Journal* that the first test location for VR will be in Los Angeles. If successful, the concept will be rolled out at up to six sites in North America and international markets by the end of the year. According to a press release, "The joint venture will carry the IMAX brand, with Imax providing product design, management, and installation services, as well as sales, marketing, and communications support, and Starbreeze delivering the software platform, hardware, technical, and product support. Imax also plans to tap into its vast network of filmmakers and exhibitor relationships, while Starbreeze will also leverage its relationships in developing and publishing interactive entertainment experiences."

In addition to Michael Bay, the VR announcement quoted representatives of **Paramount Pictures** and **Odeon & UCI Cinemas Group**, a major European cinema chain, both of which will presumably be involved in the venture.

The day before this announcement, Imax and **Google** announced a partnership to develop a high end, 360-degree, 3D VR camera system. A year earlier, Google announced Jump, a 360-degree VR "ecosystem" that included a circular rig with 16 GoPro cameras, software to assemble the images, and a player. The first videos produced with the system were released on YouTube in November.

According to a press release, the present deal envisions Imax and Google engineers working to "design the new high-resolution cameras from the ground up," intended for Hollywood and other high-end producers. Imax will provide "exclusive access to pre-existing IMAX documentary content for conversion and use with Google's VR technology."

Two more museums drop IMAX

Two more IMAX Dome theaters have announced plans to convert from IMAX film projection to digital fulldome systems. In Alamogordo, NM, the **New Mexico Museum of Space History** closed its 25-year-old Clyde W. Tombaugh IMAX Dome Theater in mid-May to begin the process of installing a **Spitz** SciDome 4K projection system with two laser projectors. The new system will replace both the 15/70 film projector and a Spitz 512 optomechanical planetarium projector when 40-foot (12.2-meter) dome reopens on July 1. In the fall, its dome screen will be replaced with a Spitz NanoSeam. (At some later date the IMAX projector's doghouse and the old Spitz starball platform may be demolished to add more seats to the theater's current capacity of 92.)

When it reopens in July, the venue will be renamed the New Horizons Dome Theater and Planetarium, recognizing the NASA spacecraft that flew by Pluto last year. The building will be renamed the Clyde W. Tombaugh Education Center, in honor of the New Mexico astronomer who discovered Pluto in 1930.

In September, the Daniel M. Soref National Geographic Dome Theater and Planetarium at Wisconsin's **Milwaukee Public Museum** will upgrade its existing **Evans & Sutherland** Digistar 3 fulldome system to an 8K Digistar 5, featuring five 4K **Christie** projectors. At the same time, the IMAX 15/70 film projector will be removed. The theater will close between Sept. 6 and 16 for the conversion.

The 73.8-foot (22.5-meter) dome theater opened with an IMAX GT 15/70 projector in October 1996, and in 2006 added the Digistar 3 system. In 2013 it added a 3D digital projection system for insert video, and dropped the IMAX brand, but continued using the 15/70 projector.

The current upgrades are part of the $1.6 million dollar gift from the **Daniel M. Soref Charitable Trust**, which also funded the 2006 and 2013 updates.

Austin to install IMAX laser

The **Bullock State History Museum** in Austin, TX, will upgrade its current first-gen IMAX digital projection system to the IMAX laser-illuminated system later this year. The theater will close on Aug. 5 and reopen on Oct. 7 with new seats and carpets, and a newly revamped entrance, concession stand, and box office, in addition to the new projection and 12-channel IMAX sound system. The new chairs will be wider, reducing seat count slightly.

The theater opened in 2001 with an IMAX 3D GT film projector. It hosted the 2011 fall conference and the 2014 spring Film Expo of the **Giant Screen Cinema**

Association. In February 2015, it was converted from 15/70 film projection to the first-gen, xenon IMAX digital system.

Toluca to reopen with IMAX

The IMAX theater in Toluca, Mexico, will reopen this summer after being closed since 2014. The 300-seat theater opened in June 2009 in the Modelo Museum of Science and Industry, supported by brewing company Grupo Modelo.

The facility is reopening this year as the Victoria Brewing Museum; the IMAX theater will get a first-gen IMAX digital projection system and will be rebranded as the Cinépolis IMAX Toluca Centro. It will be operated by Promocion Cultural Mexiquense, in cooperation with Mexican cinema chain Cinépolis. The theater will show IMAX documentary films.

Imax Q1 results

On April 21, Imax Corporation reported its financial results for the quarter ending March 31, 2016. During that period, the company posted a profit of $9.5 million ($0.14 per share) on revenues of $92.1 million, compared to a profit of $400,000 ($0.00 per share) on revenues of $62.2 million in the first quarter of 2015.

In this year's first quarter, Imax signed deals for 35 new theater systems (seven of which were joint venture deals, the rest sales or sales-type leases), compared to 20 in last year's Q1, and installed 19 (of which nine were upgrades), compared to 13 in the same period last year. The current backlog stands at 388, of which six are upgrades.

In greater China there are now 312 IMAX theaters, of which 17 are in museums, the rest in multiplexes. This is up from 239 (19 institutional) at the end of 2015's first quarter.

As of March 31, 2016, the global total of IMAX theaters stood at 1,066, of which 952 are multiplex theaters, 17 are commercial destination theaters, and 97 are institutional.

In a conference call with financial analysts, CEO Richard Gelfond reported that signings for the IMAX Palais premium home theater system, developed with electronics firm TCL Multimedia Technology primarily for the Chinese, Russian, and Middle-East markets, have reached 130. However, the economic slowdowns in those regions have delayed the installation of many of those systems. (The Palais system is priced between $150,000 and $400,000, a bargain compared to the "IMAX Private Theatres" that have been installed in a handful of U.S. mansions at a reported price of $1.5–2.0 million.)

Gelfond also revealed that Clint Eastwood's next film *Sully*, about Chesley Sullenberger, the pilot who safely landed his disabled airliner in the Hudson River in 2009, has been filmed entirely with the IMAX/Alexa digital camera. The Warner Bros. film, starring Tom Hanks in the title role, opens Sept. 9.

Imax's multiplex deals

In April and May, Imax Corporation signed deals for more than 60 theaters in China, Taiwan, and Germany. The largest of these was with Guangzhou JinYi Media Corporation, for 40 screens to be built in China over the next four years. The deal will bring the exhibitor's total of IMAX theaters to 60.

The company also signed two ten-screen deals, with Shanghai Aurora Movie Co. Ltd. and Shanghai Bestar Cinemas, the latter to be installed by the end 2017.

In Taiwan, IN89 Digital Cinemax Co. Ltd will install two IMAX screens in new theaters in the cities of Ji'an and Jiayi.

And in Germany, UCI Kinowelt will install an IMAX laser system in a new theater being built in Berlin's Mercedes Benz Platz.

New films in Barco Escape

Barco has announced deals with two studios to release several films using the three-screen Barco Escape format. Cross Creek Pictures will develop an as-yet unnamed title in the format, and Fundamental Films will produce at least two, including *24 Hours to Live*, an action film starring Ethan Hawke and directed by Brian Smirz. It is set to open in summer 2017, and a second film from Fundamental will play on Escape screens in late 2017.

There are currently 20 Escape theaters worldwide, and Barco has said it plans to have 150 by the end of 2017.

Gelfond's pay jumps to $14.5 M

According to regulatory filings, compensation for Imax Corporation CEO Richard Gelfond totaled $14.5 million in 2015, up from $10.6 million in 2014, a 37% raise. The filing said the compensation committee credited the raise to last year's "highly successful Imax China IPO" and Gelfond's "leadership of Imax's China business for over a decade."

Greg Foster, CEO of Imax Entertainment, saw his 2015 income jump by nearly $1 million, from $3.48 million in 2014 to $4.45 million last year, up 28%.

All Imax staff to get stock

Imax Corporation is providing all employees with stock benefits previously available only to the top tiers. In March, all employees were given — at no cost to them — a grant of "restricted share units," in quantities based on their job level. The share units vest in two years, when they will be converted to shares that the employees can hold or sell.

Strike in Montreal

As this issue went to press, we learned that unionized employees at the Old Port of Montreal voted to go on strike starting on May 27. As a result, all activities at the Montreal Science Center and its IMAX theater were suspended, pending resolution of the labor dispute.

The workers, whose contract expired on March 31, are asking for better working conditions and higher salaries, including a raise of entry-level wages from CAN$10.67 (US$8.22) an hour to CAN$15.00 (US$11.56).

When Will *In Saturn's Rings* Be Finished?

*(from **SATURN** on page 1)*

Of course, the Question is also a self-inflicted wound, since I bowed to the pressure from very interested parties of distributors, backers, fans, etc., and in 2012 announced a release date of July 2014. That time has obviously come and gone while no new date has been announced.

Here's the story why, in never-before-revealed insights. This is your chance to learn how ***In Saturn's Rings*** came to be and how it's currently being created.

Once in film history

For a long time, I've used the term "ground-breaking" to describe the film. But I've learned that it is misleading. "Ground-breaking" applies to blazing a trail that others will follow. It's actually very unlikely anyone will every attempt to create anything like *In Saturn's Rings*. And it's nearly impossible that it will ever be attempted at the scale and resolution of the film.

In Saturn's Rings is a full-length film created entirely as a multi-plane photo-animation. This, in fact, has never been done in film history. The manual labor required is extraordinary; using CGI and/or scientific visualizations would be much less difficult to execute. Or easier still, simply take a motion picture camera and shoot your subjects.

Easier, that is, unless your subjects are billions of miles or billions of light-years away.

Necessity, the mother of invention

The phrase "multi-plane photo-animation" may not mean a lot even to the technical reader. It meant nothing to me in 2004 when NASA's Cassini spacecraft arrived at Saturn. Upon seeing the first stunning photographs returned to Earth amidst profound lack of front-page media coverage, my first thought was "if only we had a motion picture camera at Saturn, then people would care."

That single thought, combined with a lost childhood dream to be an astronaut, changed the direction of my life. My passion for Saturn and space exploration in general were fired by childhood readings of Robert Goddard biographies and most pointedly, Carl Sagan's TV series, ***Cosmos***. There Saturn's mysterious orange-shrouded moon Titan, our solar system's largest moon, with an atmosphere thicker than Earth's, captured my imagination.

When the Cassini-Huygens spacecraft was sent to Saturn with the Huygens lander destined to land on Titan's surface, I never doubted the mission would attract as much attention as the Apollo moon landings. I mean, it's an alien moon!!! That's what my inner 12-year-old said. But nothing close to that level of interest developed.

I wanted to do something with those Cassini photographs, something to capture the awe-inspiring majesty of the "it's so real it's unreal" that so many of us felt on seeing images from space.

But how? I had no idea. How you could take photographs and, without resorting to some kind of computer generated imagery or visual effects, create compelling moving footage? I had been working as filmmaker for about five years at the point, plus four years of film school before that, but nothing in my general knowledge of filmmaking seemed to offer a solution.

So I began to search. At that point, any fiction or non-fiction project about space relied on one or more of the following methods for creating space footage:

1. Lensed footage from cameras. This of course limited you to the Earth orbit and the Moon, where astronauts have carried cameras (e.g., ***The Dream Is Alive***).

2. In the years before computers, optical techniques, models, and other special effects were used (*Universe*, *Hidden Planet*).

3. Computer generated imagery or CGI (***Space Next***, ***Journey to Space***).

4. Scientific visualizations, that is, CGI based on scientific data (***Hubble 3D***, *Dark Universe*)

5. CGI-enhanced telescope images (***Hidden Universe***)

6. Still images used as stills in the "Ken Burns" style of panning and zooming into photographs (*The Civil War*, *Jazz*)

But no project had attempted a full film comprised of only still photographs, and for good reason. No one wants to watch a long slide show. But in the case of photographs from space, the photographs meant something far more profound than photographs of anything on earth.

Why it must be photographs

The driving passion, this film's reason for being, is that it the only chance any of us will ever have to gaze on a million galaxies at one time, much less journey through them arranged as they are in the universe. Or to gaze upon the wonders of Saturn's rings and wonder if those oceans under the moons of Titan and Enceladus are teeming with alien life.

Which brings us to photographs, spacecraft, and telescopes. The power to capture light, particularly light that has traveled across the universe for billions of years since the dawn of time, is perhaps the greatest power humanity holds. Unmanned spacecraft have traveled a billion times farther than any astronaut and that number will only go up.

But how do you turn photographs into a film without resorting to visual effects? That was the Question for me in 2004. That year I came across the excellent documentary, *The Kid Stays in the Picture* (2002), that used multi-plane photo-animation for parts of the film to cover for Robert Evans, the camera-shy producer who was the film's subject. I was very impressed with how multi-plane animation brought the photographs to life. I immediately set off to learn everything I could about how it was done.

I felt if I could make this work for photographs from space it would produce a real feeling of flying through space — not a computer-generated journey or scientific visualization, but feeling that I was the astronaut, for real, in space as I dreamed so often as a child.

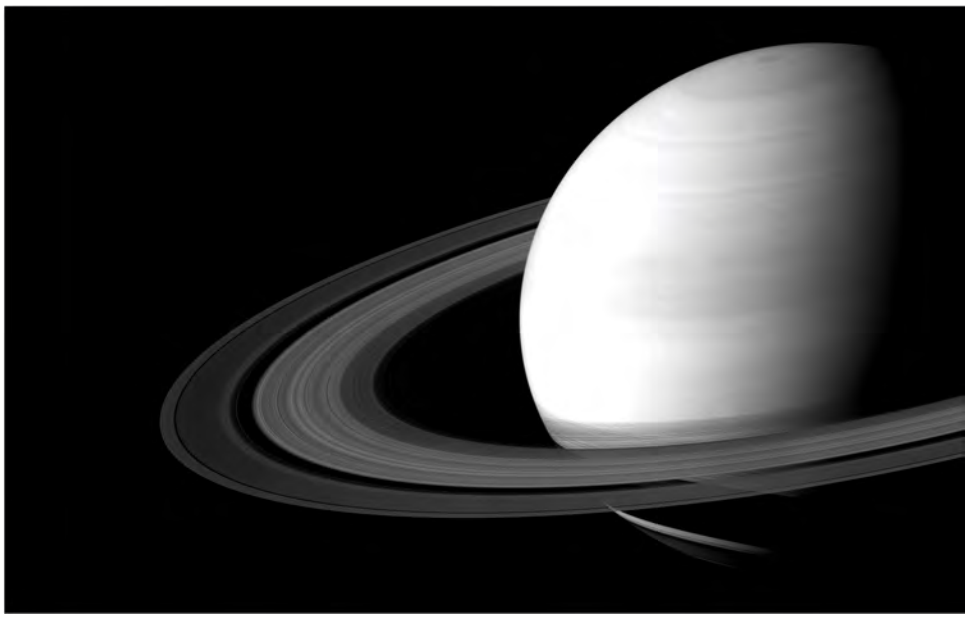
A brief history of multi-plane

Animation is as old as filmmaking itself. It is the same principle as motion picture photography — a series of stills captured or

created, one frame at a time, and projected rapidly to create motion. If fact, it's much older. Even some prehistoric cave paintings hint at suggesting movement from stills.

Hand-drawn animation thrived by the 1910s in the dawn of motion pictures. But as it grew more sophisticated, pioneers realized a basic problem with single drawings on a single layer. The feeling of depth so clearly discerned in live action was missing — the background (e.g. the moon in the sky) moves slowly compared to foreground objects (e.g. trees close to the camera) when camera is moved.

That led to the invention and development of the multi-plane camera — an animation camera using multiple layers of glass planes to allow animating foreground, midground and background elements individually, usually with three planes but sometimes as many as seven in later films by Walt Disney.



In Saturn's Rings *is made entirely of real photographs, no CGI.*

SV2 Studios

The dirty Photoshop secret

There is a fundamental difference between drawn multi-plane animation and photography-based multi-plane animation: with the former you can simply draw in the overlapping parts of the image so that animating these layers at varying depths does not leave gaps or holes.

But with a photograph, even if you are careful to separate foreground, background, or even midground, into layers, even the slightest multi-plane depth will create holes where you have cut out the image, along with other problems. In those pioneering videos from the turn of this century, the artists made heavy liberal use of the clone and paint tools in Photoshop to fill out the layers to be able to mimic the beautiful moves in Disney's glorious multi-plane masterpieces.

But due to the limits of a single photograph's resolution, they could not create long moving shots like those in the Disney films or in *In Saturn's Rings*.

Back to Saturn

I buried myself in everything on multi-plane animation techniques and quickly became adept at pulling off the best work I'd seen. I was ready to tackle Saturn. But as soon as I started I realized I had a giant problem with this gas giant.

It was simply impossible to use any known multi-plane animation techniques to capture those rings — the jewels of the Solar System. That's because Saturn's rings exist at right angles to the planet's body. All previous hand-drawn and photographic multi-plane had completely avoided photographs with objects like that or chose to leave them in a single plane, which breaks the illusion completely.

Only flat planes in the same angle as the camera film or sensor could be animated. Saturn's rings could only be done in a limited fashion if completely flat towards the plane of the camera's film or sensor. In other words, I would have to invent completely new techniques of multi-plane to create compelling animation.

Which led to the existential crisis of the film. Do I make a film entirely from real photographs? And if I don't use only photographs, why bother at all, given the huge amounts of labor involved in creating something using real photographs?

Multi-plane or bust

It was truly a crisis. It was clear now why no filmmakers had ever attempted to make an entire film from only photographs. It was one thing to make a music video with short takes of a few seconds each. But trying to create an entire film this way would be tedious for the audience after five or ten minutes.

Plus multi-plane photo-animation simply did not work for something like Saturn, or for most complex scenes, or for compelling shots that you wanted to last ten or 20 seconds, or even longer. The only other animation technique that used only real photographs was time-lapse photography. Early on I realized I could use time-lapse for some Earth-bound shots, but most space photography was not shot in time-lapse form. I could also use some other Ken Burns-style and collage-image techniques for a bit of variety.

At the end of the day, unless multi-plane animation of photographs could carry a whole film, my concept was a bust from the start. But I never felt busted. I was so seized by the passion of photographs as real journeys through space and time that I felt there had to be a way to make it work.

Back to multi-plane

I set about delving deep into photo-animation determined to find a method that would allow more dynamic footage and work with Saturn's rings. It was difficult work. But I found some answers in

*(see **SATURN** on page 8)*

*(from **SATURN** on page 7)*

unexpected places. I was at a play and noticed the painted background flats and how when well executed, the human vision builds depth where zero depth exists.

That led to research on moving flats locked to the movement of the camera used in motion pictures, like the forced perspective for the hobbits in **Peter Jackson**'s *Lord of the Rings*. I realized there were basic mathematical principles of movement, geometry, and perspective acting on the human visual system that could be studied and emulated.

But I realized that to execute this with photographs, I would have to use multiple photographs carefully chosen for the right perspectives and resolutions, and go far beyond the 2.5D multi-plane from the *Kid Stays in the Picture* and other similar projects. The complexity increase was exponential but I felt it was solvable.

I began building test animations of simple objects incorporating multiple photographic layers, linked mathematically with accurate, real-world values of scale and distance. But that led quickly to another huge problem. Once I started having multiple photographs arranged into multiple planes with real-world distances, the resolution required of the photographs grew exponentially as well.

The simplest way to explain is when photographs are increasingly set at oblique angles to your eye, the required resolution of the plane tilted close to you becomes many times more than the resolution at the far end of the photographs. Just pick up a photograph and look at it a 45-degree angle. You will quickly see the problem yourself.

Almost no photograph, even the largest panoramic mosaic from NASA made from 39 Cassini photographs, was enough for even a simple HD-resolution shot with a dramatically tilted plane. Poring through the Cassini photographs, I realized that the raw data were there for potentially massive resolution shots to solve this issue at giant-screen resolutions, but nobody had put it together.

The ring mosaic...

The author at one of his workstations.

...or how I became an image processor and learned to love raw data.

The Cassini spacecraft has taken over 350,000 photographs of Saturn to date, all black-and-white, 1-megapixel (1024 x 1024 pixels) images. When a color photograph is taken, three exposure are required with a red/blue/green (RGB) filter wheel turning in front of the camera. NASA's **Jet Propulsion Lab** (JPL) programs Cassini deliberately to take some of these photographs as panoramas, exactly the same process you use with a cellphone or digital camera, moving the camera side-to-side in panorama mode. Except JPL does multiple rows as well, for a taller panorama.

Other space missions (Hubble, Solar Dynamics Observatory, etc.) have similar image repositories with varying amounts of public access. So I dived in and downloaded everything I could on Saturn's rings, not just from Cassini, but from the Voyager missions and Hubble as well.

No intentional, complete panorama of Saturn's rings was there to be found. But Cassini makes accidental panoramas by virtue of taking 350,000+ photographs over a decade plus of orbits. Because they are accidental, they are sloppy, incomplete, and profoundly challenging to work with.

It took me ten-hour days, six to seven days a week, for four months, to create a panoramic mosaic image with high enough resolution for multi-plane animation of Saturn's rings. Over 400 photographic sources, many of them mosaics themselves, combined into one final image, obsessively built referencing other Cassini images to be sure it was accurate and complete.

SV2 Stuidos

The first Saturn animation

The very first animation was a B&W multi-plane shot using a suitable Saturn 1-megapixel photograph as background plane in a HD animation with my ring panoramic photograph in midground and the Saturn photograph moon layered to the foreground. Using my newly developed, mathematically based, multi-plane techniques, the animation worked! Not perfect, but it felt like a real camera photographing a scene not a Ken Burns-style pan and zoom.

But it was hard work, the software frequently crashed at 1080p resolution, and getting everything accurate to photographic sources slowed the process down. So in early 2006, a year after my "vision," I could barely eke out a 30-second HD animation in black-and-white.

At end of January 2006, I went to Las Vegas to meet a senior member of the Cassini team at a conference where he was speaking. I was hoping for his help in getting easier access to Cassini imagery. That meeting went badly, as cooperation was flatly denied. I found out later that this was through no fault of mine or my project, but that was little comfort.

Discouraged, I was sitting at a lunch table when the guy across from me introduced himself and asked me about my project. It was **James Hyder**, editor of *LF Examiner*. He was genuinely excited about my concept — the reaction I had hoped for at my other meeting — and told me it had to be on the giant screen.

I was humbled and complimented. But I knew the truth. I told him "it's impossible." Photo-animation simply could not be done at that size and resolution.

Impossible

But after talking with James, I went to the IMAX theater at the **Luxor Casino** in Las Vegas, which happened to be playing ***Magnificent Desolation: Walking on the Moon 3D*** (2005). I had not seen a giant-screen film since I was a kid. I was blown away by the size of the screen, the clarity of the image, the sense of being there, your field of view filled with moving images. This was literally the feeling I had from the beginning. James Hyder was dead right — my film had to be on the giant screen.

I returned home, gripped by a fever. I researched giant-screen films, watching every space related title available. I wrote not one, not two, but ten drafts (over the next couple of years) of a fairly traditional giant-screen film — narrated, with an attempt at a story. But the story problems were clear — I was writing in shots even though I had no idea whether they could ever be created with only real photographs.

And I tried to get color photo-animation rendered at giant-screen resolutions: at that point 3000 x 4000 pixels, roughly four times the resolution of HDTV, which itself had already been a struggle. Weeks, months, and years passed.

In 2007, after a concept video I did got some play on YouTube, I was offered a $500,000 budget to make the film by questionable parties, self-proclaimed Canadian-Italian real estate developers (you can't make this stuff up). They wanted me to sell them my concept, techniques, script, everything. I would lose all control and get 15% of "net profits" and a salary of some sort. This is a red-flag for filmmakers, as "net-profits" means zero and the loss of control and copyright meant they were seeking to access my resources, techniques, and content, and might even finish the film. It was unlikely I would remain involved to the end of the production, even if it did get made.

But despite how terrible an offer it was, it was agonizing to say no. I had completely run out of money, both business and personal. The script felt cumbersome, artificial, and forced. I was completely unsuccessful at rendering full-color shots at anything beyond HD resolution.

I felt I needed to reinvent the project. Wiser, more skilled filmmakers than I had never gone down the road of a film created entirely from animated photographs. Or I just needed to give up and move on with my life and return to "normal" filmmaking.

The turning point

The week after turning down the "offer I could refuse," I found myself near Washington, DC, in a hotel not too far from the **National Air and Space Museum's Udvar-Hazy Center** in Chantilly, Virginia. Looking at the incredible aircraft and spacecraft on display and watching a couple of giant-screen films, I realized that this project was unlike anything else. This film was not a "story," or any other standard film structure. It was a guided tour through the greatest photographic collection humanity has assembled.

Back in February 2007, I had set up "fiscally-sponsored" non-profit status for the project that would allow me to take donations from friends and family to help stem my financial losses. It allowed the film to take tax-deductible donations without the complexity of a 501(c)(3).

But it hit me — why not go all the way with this? This was truly a film by the people, for the people. Space belongs to no one and to everyone. When I laid this vision out to my friends and family, I was surprised how excited and positive their response was. Donations that had been a trickle started coming as a stream.

Imax in a basement

In May 2007, the Greensboro, NC, *News and Record* ran a nice story on the film, written by **Joe Scott**, called "IMAX in a Basement." The name has stuck, as my studio has been our townhouse's daylight basement since 2002.

Until those few days in my hotel room in Virginia, I always thought I would need a budget over a million dollars for all the computing resources, labor, and so forth I needed. But I had spent from 1990 to 2000 as full-time computer infrastructure guy with high-end gear. And for the last few years, tight funds had forced me to build my own computer for video editing, using low-costs parts.

In that hotel room, I spend hours slashing the film's budget and coming up with a "build it as I go" low-cost infrastructure plan to complete the film, in a basement, on DIY computers, using cheap off-the-shelf parts bought as needed over the life of the film.

That ended up being the secret sauce to make the film. It has not been easy — just ask my wife how she feels about the 19 computers, spider-webs of computer cable, and nearly two-thirds of petabyte of storage now in our basement. But that plan of non-profit, DIY, IT filmmaking is still in place today and will bring the film to completion as envisioned. I estimate that a minimum of six months of my labor of the last ten years has been nothing but IT computer work to build and maintain the film's infrastructure.

End of part 1. This article will conclude in the Summer issue of LF Examiner.

Stephen van Vuuren is an award-winning filmmaker, musician, photographer and ubergeek, and is the director, writer, and producer of In Saturn's Rings, *which will eventually be distributed by BIG & Digital.*

IMERSA Summit in Denver in March

Over 225 people attended the **IMERSA** Summit in Denver, March 16–20. The meeting of the association of Immersive Media, Entertainment, Research, Science, and Art included screenings of 18 fulldome shows, panel discussions, technology demonstrations, keynote addresses, and the presentation of a lifetime achievement award to **Greg MacGillivray**.

The summit was held at the **Denver Museum of Nature and Science**, whose Gates Planetarium hosted the fulldome screenings. The dome was specially equipped for the meeting with a 4K **Digistar 5** projection system from **Evans & Sutherland**. The summit concluded with a trip to the **Fiske Planetarium** at the University of Colorado, Boulder, which has a **Sky-Skan** Definiti 8K system.

Highlights included:

- A discussion with **Andy Zakrajsek** and **Ty Owen** of **COSI Columbus,** and **Carolyn Sumners** of the **Houston Museum of Natural Science**, on programming for digital theaters. Both of those museums have a digital flat screen theater and a digital dome. They outlined the many programming options available for these venues, how to define core audiences and determine what will appeal to those visitors. The challenges of establishing distinct identities for the flat-screen and dome theaters was dicussed
- A separate session in which Sumners described the E&S True8K fulldome system recently installed in her 50-foot (15-meter) dome, the first of its kind in the world. Its ten 4K projectors display nearly 51 million unique pixels and provide unprecedented detail, contrast, and color depth.
- A panel discussion on developments in virtual reality (VR) moderated by **Paul Fraser** of **Blaze Digital Cinema**. It included a presentation by **Devin McGinn** of **The Void**, an augmented reality entertainment experience that puts people into an interactive space where headsets layer virtual images over real physical set pieces and environmental effects like wind and rain to create virtual adventures. The company's first public installation will be *Ghostbusters: Dimension* at Madame Tussaud's in Times Square, New York City, opening in July.
- A talk by Dr. **JoAnn Kuchera-Morin** of **U.C. Santa Barbara**, who built the Allosphere, a computational platform consisting of two hemispheric domes with 26 digital projectors and 54 channels of audio. Her teams uses it to visualize and auralize scientific data in new ways that allow scientists to discover new connections within their big data sets.
- A presentation on writing scripts for immersive shows by **Michael Daut** of E&S and **Carolyn Collins Petersen** of **Loch Ness Productions**. (Daut's talk has been adapted to an article that starts on page 1 of this issue.)
- A live performance at the Fiske Planetarium of *Résonances Boréales* by pianist and composer **Roman Zavada**, original piano music accompanying live-action images of aurora on the dome.

For more information on IMERSA, visit imersa.org.

The following people contributed to the success of the 2016 IMERSA Summit:

Ethan Bach, **BETA**
Daniel Baron
Monica Bolles, IMERSA
Sonya Canavan, IMERSA
Michael Daut, Evans & Sutherland
Eric Davis, DomeLab
Timmy Edens, Dome Masters
Jason Fletcher, Boston Museum of Science
Lori Furstenberg, IMERSA
Ben Gondrez, Fort Collins Museum of Discovery
Karen Hatlestad, Denver Museum of Nature & Science
Sascha Kriegel, **Planetarium Hamburg**
Gregory Mancari, Denver Museum of Nature & Science
Jeff Merkel, **Signal-to-Noise Media Labs**
Terry Moore, IMERSA
Dan Neafus, Denver Museum of Nature & Science
Mark C. Petersen, Loch Ness Productions
Carolyn Collins Petersen, Loch Ness Productions
David Romero, Denver Museum of Nature & Science
Karen Roney, IMERSA
Mike Sperandeo, DomeLab
Terry Trieu, **Phoenix Visual Arts**
Ryan Wyatt, **California Academy of Sciences**

Michael Daut spoke at the IMERSA Summit

Scriptwriting for Immersive Screens

*(from **WRITING** on page 1)*
produceable. You'll never be able to afford it.

The other thing to remember as a writer is that the script is just one part of the experience.

We writers tend to do most of our work alone. But once we have written, we enter into a collaborative process with our team, and our script will change. In fact, it must change.

Another classic adage is: Show me, don't tell me. That especially true in an immersive environment because it is such a visual experience. It is an aural experience as well, but it's not necessarily a scripted experience. The script is part of it, but the experience is not just about words. So let's talk about ideas.

What story do I want to tell? This is where it all begins. If you don't have a good idea to start with, don't waste a year or more of your life trying to create a show from that idea, because nobody's going to care. If you don't like your idea, your audience is not going to like it either.

Ideas are difficult. It is really hard to pull ideas out of the ether. You're grabbing at stuff that doesn't exist, trying to find something you can turn into a more concrete, more engaging idea. You have to go through a lot of bad ideas to find one good one.

You probably know the first rule of brainstorming: quantity, not quality. Just put everything out there, and generate all kinds of ideas. Why? Because it takes a long time to come up with something good. You're just getting the creative process sparked.

There's nothing more dangerous than having *one* good idea, because then you have nothing else to fall back on. You'll need more options. So once you have a great idea — or a good idea — put it aside and brainstorm some more.

Keep going until you have a selection of ideas you're proud of and excited to develop further. Remember that everyone is a critic, but not everyone is a writer. It's easy to poke at something that you didn't have to create. But to write it yourself is another whole ballgame. Remember that opinions are like armpits, everybody has one, and most of them stink.

Working with science content

In the world of planetariums, science centers, and museums, science content is king right now, but that creates its own challenges. A dome show is not a textbook or a Wikipedia page. You have no idea how many people — producers — don't know this. There are too many shows with more words than images.

Mike McDonough, who did the sound design for ***Edge of Darkness***, the latest fulldome show I produced for **Evans & Sutherland**, told me that he is often faced with a one-hour script for a 40-minute show. Some producers want to pack more and more information into their shows, forgetting that less is more. More is not more; more is too much. There are no awards for the Most Information-Packed Show. I've been to many film festivals and I've never seen this award, because it's not a good award. You wouldn't want to win it.

A theater is not a classroom. You are not going to sit through a planetarium show, or other immersive show, and then take a test. This may be controversial, but I really believe that in producing a show, the goals of educators and writers should be at odds. My goal as a writer of a piece of immersive content is to inspire, not to pass along facts, figures, dates, distances, and other details.

As a writer, you've got to protect your audience. You can't just cave to pressure from those on the production team who would say, "We need these other facts about the space probe: it moved at x speed or it weighed x metric tons." Who cares? Nobody's going to walk out of the theater remembering that. Nobody's going to tell a friend to go see the show because of that piece of data.

So if you're doing your job right, you may not make the production team or educators happy. You're going to have to fight for simplicity. You're going to have to fight for clarity. You're going to have to fight to boil things down to the place where your show is accessible. Your mission, should you choose to accept it, is to tell the story in a one- or two-sentence pitch.

If you can't tell your story in a sentence or two, it's too complicated. Get it down to a pitch that you can share, before you start writing, and keep refining this pitch. Take the handful of good ideas from your brainstorming phase, find your favorite, start with it, and turn into a pitch. Keep it simple. Make it clean. Make it elegant. Don't overcomplicate it. Don't add an extra sentence to clarify it, because it won't. It'll confuse it.

As someone once said, "You can't solve a complex problem by adding more complexity."

You want to connect with your audience's emotions in a human-focused story, if possible. Another thing that is too common in science content is the Voice of God narrator, and no human component to which the audience can relate. Some of the best stories are those in which you're following someone's struggle to accomplish or discover or achieve something. You want to inspire interest and excitement about the topic.

If you can get somebody to leave your theater excited to go online to learn a little more, or watch a YouTube video, or post on Facebook or Twitter and ask, "Does anybody know about the New Horizons mission to Pluto? I really want to see what the spacecraft looked like," you've done your job.

Finding the story

So where is the story hiding and why can't I find it? One of the hardest things for a writer is to start with a blank page, because you've got to fill it with something, and that is daunting. Stories are elusive. If this were easy, everybody would be doing it. Picking a topic is the easy part, and I've already explained how hard that

*(see **WRITING** on page 12)*

*(from **WRITING** on page 11)*
can be. Finding the story is harder.

So you have a topic. For instance, the fastest vehicle ever to travel over land. Okay, so what's the story?

Well, it went really fast.

No, that's not your story.

Well, there was a guy who wanted to break that record all his life, because his hero had done it, or had gotten close but died trying, or something like that.

Okay, you're homing in on a story. You've got to figure out where the arc of the story is, what journey you're going to take the audience through.

Be specific. Don't be generic at this phase. You're going to figure out what this story really is and work that back into the pitch, so you have to fine tune it and trim away the fat. There may be a lot of extra stuff you ultimately won't need.

The other question you have to ask yourself is, what resonates with *me*? If this story does not mean something to you, if it's not hitting *you* in an emotional way, you'll never be able to deliver a compelling experience to an audience.

If you're not passionate about it, the audience will know. It's a completely transparent medium. When people sit down in a giant screen or dome theater, you are taking over all of their senses, so you had better give them something *you* believe in, or you're just wasting their time.

What story are you excited to tell? Your excitement is going to translate, and if it translates all the way to the screen then it's a win, because it will excite the audience.

What makes a good story?

- Is there tension? What was the challenge in getting from point A to point B? Your story should involve some struggle in achieving a goal. This is something we science producers too often ignore. We just push information out, without building any tension.
- Are there twists in the story, or is it all completely predictable? People love twists.
- Is there an opening hook? If you don't grab your audience in the first few minutes, you aren't going to hook them later. These days, most people will click away from a Web site if it doesn't load within *three seconds*. We are becoming an attention-span-challenged culture, so you've got to get people hooked right away.
- Have a satisfying ending. Your story needs a satisfying place to land, so your audience will want to see it again and tell others about it.

How to write

So how do I write this? Let's dissect the creative process a little bit. How do you stimulate creativity? Do you get some organic oil and rub it on your temples and hope it'll seep into your brain and get some synapses firing?

One way is to do some research. This sounds really boring, and like homework, but it is where you're going to find a lot of real meat for you story. If you know your topic, you will have a place of experience and authority from which to communicate. Your audience will feel comfortable that you know what you're talking about. Have you ever had a conversation with someone who's just BSing you? They're just talking garbage, and you can tell.

You need some authority. You need backup for what you're presenting, so it's not suspect.

Know your audience. Who is this for? If you're doing a show for eight-year-olds to young adults (the main target market for many of our shows), but produce a script for Ph.D. rocket scientists, you're on the wrong track. Conversely, if you're writing for an audience of experts, you'll be able to assume that they have a lot of knowledge that your other audiences would not.

Visualizing the story

You may not have the whole story, but there may be a scene within your topic that you've always wanted to see on screen. **Carolyn Collins Peterson**, who wrote *Edge of Darkness*, had always imagined a scene of a comet plunging into the atmosphere of Jupiter, and that became a moment we were able to include in the show.

A single striking visual is not going to build your whole story, but if there's a great moment you can include, think it through, not with words, but in terms of visuals.

How do you tell this story visually? Start with scene treatments. This is not drawing pictures, it's just saying, here's a scene in my show. Don't even worry about putting them in order yet. "I'm in space, looking at earth as a hemisphere in front of me; at the edge of the dome, and coming up from the bottom I see an astronaut on a spacewalk." That's a scene. "And then, as the camera moves, we see that he is disconnected from his spacecraft, and he's struggling to find a way back." That's visual, although you're using words to describe that visual.

You're not yet writing anything that's going to be spoken, you're just describing a scene. Think of these scenes as if you were forced to create a silent movie, with no narration or dialogue. How would you tell that story?

Now craft the transitions from one scene to the next so that you can get an idea of how these images are going to flow. In our immersive world, transitions are critical. Your audience is in a *place,* and transitions have to be very delicate, because in real life we don't instantaneously jump from one place to another.

In immersive media we have to allow shots to develop over time, rather than cutting suddenly from one shot to the next. If there's a way to have the shot change as the camera moves, or objects in the scene move, that is much more compelling and more comfortable than cutting.

In my opinion, 2013's ***Gravity***, with **George Clooney** and **Sandra Bullock**, was the first feature film shot for the dome, even though (as far as I know) it never played in a dome. That's because director **Alfonso Cuarón**'s camera moves used the grammar of immersive cinema: shots were long and flowing and developed over time. They changed in surprising ways to become different shots.

Find the structure

You don't want to hold off the writing process until the whole visual story is done. You really aren't creating a silent film, but you are creating a largely visual

*(from **LOW** on page 12)*
experience, so have a structure in mind, have your scenes laid out, but hold off on writing the specifics of the script until you see how the pictures turn out.

Find the structure. What is the beginning? What is the middle? What is the end? The three-act structure started with Aristotle, and it still works. It is a beautiful thing to apply to content of almost any kind.

Keep the concept fluid. I've said this before, but it is something I keep learning and getting better at it. I'm a list keeper, and I like to be able to check things off my list. "I've written the script. Good, let's move onto something else." But you can't move onto something else when it comes to the script. The script is a living document that has to be cared for and modified almost continuously. You can only see so much at this stage.

Think of production as a process of discovery: as more content is delivered, as you finish a shoot, or you listen to some of the music, you have a greater understanding of this thing you are creating. It's coming to life before you. Don't let the script that helped give it birth hold it back. Let the script adapt to the show you are creating, so it serves rather than hampers it.

Getting it on paper

Stage one: don't get it right, get it written. That's something I learned early on as writer. The greatest cure to writer's block is just writing *something*. Write "the quick brown fox jumped over the lazy dog." "All work and no play makes Jack a dull boy." Get words on the page, even if it's garbage. Just get words out.

Words are the raw material of our craft. Think of words as a big block of marble that you are chipping away at. If you don't have any raw materials, you have nothing to work with. Don't be afraid to shape and mold and chisel away at them, beat them, and throw them away, and add new ones. Ultimately, you're only going to use the words that are necessary, so you don't have to create Shakespeare in the first draft.

It's funny how your lens gets sharper as you proceed. It's like the mission to Pluto. It's this little fuzzy dot at the beginning, and as you get closer, you start seeing more and more detail. As that detail comes in, make use of it because it's solid gold.

As the process continues, expose and eliminate the parenthetical. Parenthetical is stuff that follows commas. Often you don't need it. It's an aside, it's a distraction. Get rid of it. (But in some cases you won't know what's parenthetical until the very end.)

Revising the script

It's a good idea to take a new look at your script at key moments in the process and make some adjustments.

1. The first place is the animatic. An animatic is just pictures of your storyboard over time. It's a video you cut together to get a feel for the timing of the script. It is a very valuable tool in animation because, if you get the timing right, you can replace those scenes with the finished scenes as you put your show together. The animatic can change, but this is where you're going to get a good look at how the pacing of the film will work, with very rough, rudimentary elements. If something's not working at that stage, change it. You can always change it back later, if necessary.

2. The rough cut. Now you have better images. You have your animations. You have most of what you want in the whole piece. Listen to the script with a fresh perspective and pull out or change what you can. Often when writing, you describe things in narration or dialogue that are shown on the screen. You don't need to say, "There's a store over there." Well, of course there's a store over there. We all see it. You don't have to be so obvious.

3. The final cut. The locked picture is one of your last chances to refine the script. This is why you hold off on recording narration and dialogue as long as you can. It's harder when you are filming actors. Changing dialog after the shoot might a require a reshoot, which gets expensive.

4. Even in the final audio mix there may be a few last little stragglers that you can pull out. I've often made cuts by pulling an (unnecessary) middle section out of a sentence and splicing the two ends back together. The audience never knows.

Learning to dance

The process of putting a show together is like learning to dance. The words are just one partner. You're not dancing with yourself. You have to dance with all of the show's elements. You've got visuals, words, sound effects, music, and structure. Each has to have its own turn in the spotlight.

You can't just have all of these elements on screen together. You'll wear out your audience. You need moments where it's just music over the visuals. Some interesting productions have scenes with no visuals, just sounds. It makes you listen.

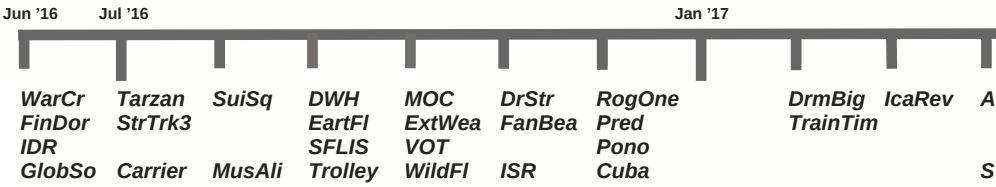
This is especially critical with surround sound-elements because, since we're looking mostly forward, even in this immersive space, we ignore some of those ambient elements. Our brains turn them off because they're behind us. There are times when you want sound effects to even take center stage without any music at all.

And there are times when words need to carry it, so you have to learn to balance all of that.

Conclusion

Writing is a process of discovery: discovering ideas, discovering visuals that tell a story, and discovering the words that resonate with an audience. It is also the process of observation: observing what works and what doesn't; what is essential and what is parenthetical. Starting with a solid idea and nurturing it through its infancy will create the framework for a script that will take shape alongside the show it supports. As the production comes more sharply into focus, the words that are needed will become more and more obvious. Always keep the visual story paramount and provide just enough script to guide the audience through their immersive experience.

Michael Daut is director of show production, marketing, digital theater division, for Evans & Sutherland. He has produced over 25 and written or co-written 20 immersive productions. He is also one of the directors of IMERSA and serves on the Giant Screen Cinema Association's board of directors. He can be reached at mdaut@es.com.



All films are 3D unless noted, underlined titles are 2D
* New listing.
Updated information is printed in **bold**.
Unless noted, all films run about 40 minutes.
Some titles with limited release territories are not listed.

Carrier (wt)
K2 Communications, Giant Screen Films; distributor: K2 Communications, Giant Screen Films; director: Stephen Low; producers: Don Kempf, Bob Kresser, Mark Kresser, Andy Wood. Release: mid-2016 (24-min. version); November (40-min. version).

Museum Alive 3D
Colossus Productions, Atlantic Productions; distributor: Atlantic Productions; director: Daniel M. Smith; producer: Anthony Geffen; script: David Attenborough, Mike Davis; DP: Tim Cragg, Chris Parks; score: Ilan Eshker. Cast: David Attenborough. Release: mid-2016.
– Post-production is under way.

The Legend of Tarzan
Village Roadshow Pictures; distributor: Warner Bros.; director: David Yates. Cast: Margot Robbie, Alexander Skarsgård, Samuel L. Jackson, Christoph Waltz, John Hurt, Jim Broadbent, Djimon Hounsou. 2D. Release: July 1. DMR.

Star Trek Beyond
Bad Robot; distributor: Paramount Pictures; director: Justin Lin. Cast: Chris Pine, Zachary Quinto, Karl Urban, Zoe Saldana, Idris Elba, Simon Pegg, Anton Yelchin, John Cho. 2D. Release: July 22.

Suicide Squad
DC Entertainment; distributor: Warner Bros.; director: David Ayer. Cast: Margot Robbie, Scott Eastwood, Jared Leto, Cara Delevingne, Will Smith, Jai Courtney, Ben Affleck. 2D. Release: August 5. .

Deepwater Horizon
Lionsgate; distributor: Lionsgate; director: Peter Berg. Cast: Kurt Russell, Dylan O'Brien, Mark Wahlberg, Kate Hudson, Gina Rodriguez, John Malkovich. 2D. Release: Sept. 30. DMR.

Earthflight 3D
John Downer Productions, BBC Earth; distributor: BBC Earth, Giant Screen Films; director, producer: John Downer; executive producers: Neil Nightingale, John Downer. Release: September.
– February: Recorded narration.
– Post-production is under way.

The Search for Life in Space
December Media; distributor: MacGillivray Freeman Films; director: Steve Westh; producer: Stephen Amezdroz; DP: Jim Frater; script: Klaus Toft; score: Dale Cornelius; executive producers: Tony Wright, Stuart Menzies. Cast: Lisa Kaltenegger, Chris Johns. Release: September.
– In post-production.

The Trolley (wt)
Stephen Low Company; distributor: Stephen Low Company; director: Stephen Low; producer: Pietro Serapiglia. 2D. ***Release: September.***

Wild Flight 3D
Colossus Productions, Atlantic Productions; distributor: Atlantic Productions; director: David Lee; producer: Anthony Geffen; writer: David Attenborough; DPs: Paul Williams, Peter Parks, Chris Parks; executive producer: Anthony Geffen. ***Release: September.***
– Post-production is under way.

Mysteries of China
Giant Screen Films, Top Production China; distributor: Giant Screen Films; director: Keith Melton; producers: Don Kempf, Andy Wood, Keith Melton, Li Huixing; DP: Reed Smoot; script: Mose Richards. ***Release: Oct. 7.***
– Post-production is under way.

Extreme Weather (wt)
National Geographic Studios; distributor: National Geographic Studios; director, producer, DP: Sean Casey; script: Mose Richards; executive producer: Brooke Runnette. Release: October.

In Saturn's Rings
SV2 Studios; distributor: BIG & Digital; director, producer, writer, executive producer: Stephen van Vuuren. 2D. Release: Fall.
– Rendering for the opening section, originally expected to take 3–6 months, is taking much longer.

Voyage of Time
Sophisticated Films; distributor: Broad Green Pictures; director, writer: Terence Malick; producers: Dede Gardner, Nicolas Gonda, Sarah Green, Grant Hill, Brad Pitt, Bill Pohlad, Andreas Roald, Sophokles Tasioulis; DP: Paul Atkins; score: Ennio Morricone; executive producers: Tanner Beard, Mary Bing, Yves Chevalier, Ryan Rettig, Donald Rosenfeld. ***Release: Oct. 7.***

Doctor Strange
Warner Bros.; distributor: Warner Bros.; director: David Yates. Cast: Eddie Redmayne, Ezra Miller, Colin Farrell, Jon Voight, Katherine Waterston, Ron Perlman, Samantha Morton. Release: November 4. DMR.

Fantastic Beasts and Where to Find Them
Marvel Studios; distributor: Walt Disney Studios; director: Scott Derrickson. Cast: Rachel McAdams, Benedict Cumberbatch, Tilda Swinton, Mads Mikkelsen, Chiwetel Ejiofor. Release: November 18. DMR.

Rogue One
Lucasfilm; distributor: Walt Disney Pictures; director: Gareth Edwards. Cast: Felicity Jones, Mads Mikkelsen, Alan Tudyk, Ben Mendelsohn, Donnie Yen, Diego Luna, Forest Whitaker. Release: December 16. DMR.

Predators (wt)
Silverback Productions, BBC Earth; distributor: BBC Earth, Giant Screen Films; director, producer: Alastair Fothergill; DP: Jamie McPherson; ***score: George Fenton****; executive producers: Neil Nightingale, Alastair Fothergill. Release: December.*
– Post-production is under way.

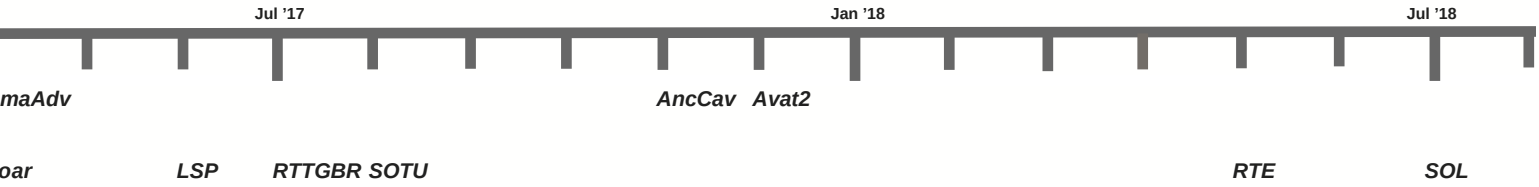
Pono: The Secret of Hawaii
Happy Planet Productions; distributor: tba; director, DP, writer: Pierre Hugues Routhier; producers: Richard W. Kroon, Margaret Goode; score: Cody Westheimer. Executive producers: Pierre Hugues Routhier, Richard W. Kroon. Cast: "Uncle" Earl Kamakaonaona. Release: December.
– Location filming on the Islands of Hawaii began in 2014 and will wrap in 2016.

Cuba
Golden Gate 3D; ***distributor: Giant Screen Films****; director, producer: Peter Chang. Release: 2016.*

Dream Big: Engineering Wonders of the World (wt)
MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; director: Greg MacGillivray; producer: Shaun MacGillivray; DPs: Brad Ohlund, Greg MacGillivray, Ron Goodman; script: Stephen Judson, Jack Stephens; score: Steve Wood. Release: February 2017.
– Spring: Additional filming in China, the Middle East, and locations in Europe and the US.

Train Time (wt)
Stephen Low Company; distributor: Stephen Low Company; director: Stephen Low; producer: Pietro Serapiglia. 2D. Release: February 2017.

Icarus' Revenge
N3D Land Films; distributor: nWave Pictures; directors: Pascal Vuong, Ronan Chapalain; producers: Catherine Vuong, Pascal Vuong; script: Pascal Vuong; score: Franck Marchal; executive producers: Catherine Vuong, Pascal Vuong. Cast: Bertrand Piccard, André Borschberg. Release: March 2017.
– February-March: Scouted in Hawaii.
– April: Solar Impulse's flight around the world continued.



– May-June: Filming in Hawaii.

Amazon Adventure *
The science adventure story of Henry Bates' extraordinary 11-year journey through the Amazon in the 1850s.
SK Films; distributor: SK Films; director: Mike Slee; producers: Jonathan Barker, Wendy MacKeigan, Mike Slee, Yuri Sanada; DPs: Gerry Vasbenter, Richard Kirby; script: Wendy MacKeigan, Carl Knutson; executive producers: Jonathan Barker, Sean B. Carroll. Release: April, 2017.

Soar
RPG Productions, Soaring the West, Inc.; distributor: tba; director: Matthew Murray; producers: Jennifer Casey, Rick Gordon; DP: Brandan Carlson;executive producers: Jennifer Casey, Rick Gordon. Release: spring 2017.
– July: Filming of world record high-altitude flight in Patagonia, Argentina.

Ancient Caves (wt)*****
Takes the audience on a journey through geological time on a mission to unlock the secrets of ancient climate change.
Oceanic Research Group; distributor: MacGillivray Freeman Film Distribution; director: Jonathan Bird; producers: Jonathan Bird, Christine Bird; DP: Jonathan Bird; script: Art Cohen; score: Bruce Zimmerman. For 15/70 dome only. Release: November 2017.
– June: Filming scientists in a cave in Minnesota.
– Fall: Shooting in Death Valley, France, Bahamas, Mexico.

Avatar 2
Lightstorm Entertainment; distributor: Twentieth Century Fox; director: James Cameron. Cast: Zoe Saldana, Sigourney Weaver, Sam Worthington, Stephen Lan. Release: Dec. 25. DMR.

Lightspeed Pioneers
No Final Frontier Productions, Mind's Eye Creative, Wonder Mill Cosmos; distributor: BIG & Digital (flat-screen), Evans & Sutherland (fulldome); director, producer, writer: Lee Fanning. 2D. Release: 2017.

Return to the Great Barrier Reef
Atlantic Productions; distributor: tba; director: Martin Williams; producer: Anthony Geffen; script: David Attenborough; DP: Tim Cragg; score: Joel Douek; executive producer: Anthony Geffen. Shot in 4K. Cast: David Attenborough. Release: 2017.
– Post-production is under way.

Secrets of the Universe
Stephen Low Company; distributor: K2 Communications; director: Stephen Low; DP: Mark Poirier; executive producer: K2 Communications. Release: 2017.

Return to Everest (wt)
MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; director: Greg MacGillivray; producer: Shaun MacGillivray; script: Stephen Judson; DPs: Brad Ohlund, Michael Brown, Greg MacGillivray, Jack Tankard, Ron Goodman; score: Steve Wood. Release: 2018.

Sea of Love (wt)
Achtel Pty. Ltd.; distributor: tba; director, producer: Pawel Achtel; DPs: Pawel Achtel, Yifan Wang; script: Jan Aldenhoven, Yunan Cao. Release: tba.
– **July: Filming humpback whales in Tonga in 6K 3D, HFR, HDR.**

A December Media crew filming for The Search for Life in Space *in the Haleakala Valley, Maui, HI, in 2015.*
L to r: Chris Mitskinis (2nd camera assistant), Richard Kickbush (camera assistant) and Jim Frater (DP).

December Media

*(from **NEIHOUSE** on page 1)*

flew, and another three years before the first IMAX camera would leave Earth. But the results were definitely worth the wait. Those first images from orbit of the earth were breathtaking, and even before we completed the first GS space film, ***The Dream Is Alive*** (1985), plans were being formed to make a film looking at earth from the vantage point of space. That film would become *Blue Planet*.

A Beautiful Planet, though, is the first GS space film to be shot entirely on digital cameras. One of the first things NASA told us when we initially pitched the film was, "You cannot fly film." With the retirement of the Space Shuttle, there just wasn't enough room to fly film up into space and back down to Earth in a timely manner, so we set off on a search for a reasonable digital solution.

One of the first issues centered on aspect ratios. Traditional 15/70 film projection is 1.43:1, and with screens as wide as 120 feet (36.5 meters) in the mix, filling them with a digital image that is 16:9 was going to present some challenges. Rather than letterbox the image, our plan was to crop the sides of the image and use post-production techniques to improve the resolution, enhance the sharpness, and reduce noise.

Another challenge was image resolution. No one has ever really put a quantitative resolution number on film. Many agree that a 35mm Academy frame is close to 4K, and if that is the case, a 15/70 frame is equivalent to 12.7K. There aren't any cameras out there that shoot 12.7K at 24 frames per second; not even close.

In 2012 we began testing several of the top-tier digital cameras side by side with 15/70 film: the **Arri** Alexa M (2K, but with a 4:3 sensor), the **Sony** F-65, the **Phantom** 65, the **Red** Epic and the **Canon** C300. We shot in the ISS, at the Johnson Space Center in Houston, Texas, and at a yacht harbor in Kemah, TX. I wanted to see what the cameras could do in a space-like environment and how they would handle a lot of fine detail at various distances. Part of the testing included having current and former astronauts evaluate the cameras for size, user-friendliness, and zero-G usability.

Those tests narrowed down the field to the Red Epic and the Canon C300. Even though the Canon was an HD camera and we were looking for 4K or better, we liked the way the image looked. We'd also had some previous experience with Canon material, as we had flown a Canon XH G1 HDV camera to shoot for ***Hubble 3D*** (2010) with remarkable success. We also knew that the C500 4K was in the works. A year later, when that camera hit the market, we repeated the test with the C500, recording uncompressed 4K out to a **Codex** Onboard S+ digital recorder, and the Epic at 5K. In this final test, the Canon C500 emerged as the clear winner.

James Neihouse and Marsha Ivins spoke in April at the 2016 National Association of Broadcasters convention in Las Vegas.

One of the real challenges for digital cameras when shooting for the giant screen is resolving fine, high-frequency details in the wide shots. It is this level of detail that allows for those wonderful vistas that giant-screen films are known for.

While we felt the C500 was well suited to the task of recording day-to-day life on board the ISS, we were not as confident with its ability to capture the earth shots with the clarity we needed. This led us to look for another solution for shooting the terrestrial-looking images.

We decided to use a full-frame still camera to shoot image sequences — basically a "hyperlapse" of the Earth as it moved by at 17,500 miles per hour. There were two advantages to be had with this idea. First, the full-frame still sensor at 1.5:1 aspect ratio closely matched the 15/70 aspect ratio, so we would end up with 5K resolution. Second, we would be able to use longer shutter speeds to get the exposure necessary for night scenes of the planet.

The next question was how this hyperlapse material would look on the giant screen. The answer came quickly when we looked at the first test: not watchable. We had to come up with a solution, and that was to interpolate the in-between frames, converting the low-frame-rate time lapse to 24 frames per second.

Fortunately, an astronaut friend of ours, **Don Pettit**, just happened to be aboard ISS, so we asked if he could shoot a test for us. We converted the image sequences he sent down, put them on the big screen and they looked amazing! We had found our solution for Earth shots.

The final flight package would be two cameras: the Canon 1DC with two Canon Cine Prime lenses (14mm T3.1 and 24mm T1.5), and the Canon C500, with two PL mount lenses (an Arri Master Prime 12mm T1.3 and a Canon 15.5-47mm Cine Zoom), recording out to a Codex Onboard S+.

Getting flight certified

Everything that goes to ISS has to go through a rigorous series of tests to get flight certified. These tests can take many months to complete, and there's no guarantee your hardware will pass. NASA looks at material lists to identify anything that might be toxic to the crew on orbit. They evaluate things like electromagnetic emissions, heat dissipation, sharp edges, and power consumption. If the hardware is battery-powered, the batteries and charging system will be tested, which can be very expensive.

The CF cards, the Codex solid-state drives, and the Onboard S+ recorder had to be tested for radiation susceptibility. This was done at the radiation laboratory at Indiana University, which bombarded the hardware with a year's worth of radiation in about three seconds. The results were positive, and we were confident our data would survive low Earth orbit.

As luck would have it, NASA had already flight-certified the Canon BP-955 batteries that powered the C500, so those were good to go. The good folks at Codex designed and built a custom battery plate for the recorder that would use two of the BP-955 batteries, so powering that system was easy. We only had to certify the batteries and charger for the 1DC.

After months of very hard work by some very dedicated individuals at NASA, our cameras were approved to fly.

An astronaut film crew

I often joke about being the only director of photography that has to teach his first unit how to shoot — but what a first unit! You really can't beat astronauts as students; they are some of the fastest learners on (or off) the planet. We were very fortunate to be flying on ISS with several really dedicated crews. **Barry "Butch" Wilmore**, **Terry Virts**, and **Kjell Lindgren** were our primary cameramen. **Samantha Cristoforetti**, **Kimiya Yui**, and **Scott Kelly** served as additional camera operators, and all of the crews were our actors.

Astronaut Terry Virts helped film A Beautiful Planet *on the ISS.*

Imax Corporation

Basic photography is part of the initial training astronauts receive at NASA before being assigned their first flights, so the crews had a fundamental understanding of things like exposure, f-stop, shutter speeds, lens selection, and focus. What we had to do was get them up to speed on our cameras, the "buttonology," the differences when shooting for a giant screen, and the basic aesthetics of giant-screen cinema.

Astronauts assigned to be IMAX shooters are scheduled for about 25 hours of extra training in the months before their flight. In that time, we — the Imax space team of director Toni Myers, sound trainer **Greg Smith**, and I — have to teach them about shooting for the giant screen. They have to learn everything an earthbound film crew has to do: setting up a scene, determining the action, lighting the scene, determining exposure, composing the frame, and recording audio.

During training, we developed a "shopping list" of shots we wanted the crew to get: things like exercising, holiday celebrations, and new crew arrivals; the daily routines that show what living in space is like. There were also Earth targets, which were the main theme of the film. About 150 specific locations on the globe were on the list.

All of our camera equipment was launched to the space station aboard the SpaceX CRS-4 Dragon supply vehicle on Sept. 21, 2014. The Dragon is one of four commercial cargo vehicles that fly to the ISS, and the only one that returns to Earth without burning up in the upper atmosphere.

The digital cameras brought quite a few advantages to the production, not the least of which was a much longer run time. With our film cameras, we got three minutes per 1,000-foot load, which is limiting, to say the least. The most film we ever flew on a shuttle mission was ten rolls, which is 100 pounds (45 kilos) of film and a lot of storage space, but only 30 minutes of shooting time. The crews were always under pressure to get the shot right the first time, since there was not enough film for second takes.

With the digital cameras, we flew 12 Codex data packs, each about the size of a cell phone and weighing only 7.5 oz (200 grams), but capable of recording 30 minutes of raw uncompressed video. The 1DC and the C500 proxies recorded to SanDisk 32GB CF cards, of which we flew 50. All of this data-storage capability allowed the astronauts to shoot at will, without the worry of running out of storage media.

IMAX film cameras are loud! I have often said they sound like sewing machines on steroids, so previous sound recordings in space always had this constant din in the background, and our previous films required us to do a lot of automated dialogue replacement (ADR). Digital cameras are quiet, so we got a lot of great sync sound. Combined with the ability to shoot longer takes, this allowed the crews to capture some really special moments we would not have gotten with the 15/65 film camera.

The small size of the Canon cameras allowed the crews to put them in places an 15/65 film camera would not have fit. It would have been impossible to get shots of the crew in the cupola using the film camera. The size of the film cameras had always been a burden on the flight crews. Some astronauts even said it was like having a big ol' dog on a leash following you around. It took both hands to hold and operate. With the digital camera, the crew could carry one camera with each arm.

The great low-light capability of the Canon cameras allowed the astronauts to capture images for the giant screen that we had never seen. Now they could shoot night scenes with lightning, auroras, city lights, and fishing boats at sea. Capturing these kinds of images allowed us to tell the story of humans' impact on the planet by revealing population centers not visible during the day.

Receiving the footage

Getting dailies back from the space station isn't as difficult as you might imagine. NASA maintains an almost constant Ku-band link with the orbiting lab through a series of data relay satellites and ground stations. The speed is about 300mbps down and 25mbps up. Any digital data collected on orbit can be downlinked via this system to the scientists on the ground. The link is also the standard method for sending digital images back to earth, so fortunately for us that system was already in place and well-tested.

For data on a CF card, the crew simply had to put the card in a reader, and the

*(see **NEIHOUSE** on page 18)*

*(from **NEIHOUSE** on page 17)*
data was automatically transferred to the networked computer. The ground controllers then went on the network and downloaded the files.

We had three different image file types to deal with: the still images from the 1DC which averaged 25MB per frame, the C500 MFX proxy files, and the 4K uncompressed raw data from the Codex recorder. The crew would downlink the still images as well as the 1080 proxy files, while the Codex SSD drives would be returned to earth on the Dragon to be processed and re-flown on the next launch. (It would have been possible to fly Codex's transfer docks and downlink the 4K footage that way, but that would have taken a lot of crew time and required flight certification for more hardware and software.)

Transferring the images worked just fine until June 28, 2015, when SpaceX CRS-7 failed 139 seconds after liftoff from the Cape Canaveral Air Force Station in Florida. Apart from losing our replacement 1DC still camera, the accident halted all SpaceX flights until the cause of the failure could be determined and fixed. Our 4K data was stuck in space.

We were then faced with the challenge of getting our high-resolution material to the ground via the downlink. Fortunately for us, we had two very good resources: our space operations guru, former astronaut **Marsha Ivins**, and the good folks at Codex Digital. Together they came up with a procedure to connect the Onboard S+ recorder to a space station laptop with an ethernet cable. After an IP address change that allowed the computer to think the recorder was an external hard drive, we were set to start downloading 1.4TB of data on a 300mbps link. Six weeks later, we had every shot on the ground without missing a single bit.

The crew wrapped up shooting on Dec. 11, 2015, when Kjell Lindgren got a long-awaited shot of Moscow at night, the last target on the list. After 403 days of principal photography in space, *A Beautiful Planet* was wrapped. The Canon cameras had performed flawlessly. There wasn't a single technical issue over the course of 15 months and more than 190 million miles flown in space. Butch, Terry, and Kjell did an outstanding job capturing some of the most beautiful images we have gotten from space in the past 35 years. I couldn't have done better myself — but I'd still like to try!

A Beautiful Planet was produced and distributed by Imax Corporation and opened in IMAX theaters worldwide on April 29, 2016.

James Neihouse is a cinematographer with more than 30 giant-screen credits over four decades, including **The Dream is Alive!** *(1985),* **Pulse: A Stomp Odyssey** *(2004), and* **NASCAR** *(2004). He can be reached at neihouse@1570films.com.*

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*(from **SHORTS** on page 28)*

Voyage of Time release date set

Director **Terence Malick**'s ***Voyage of Time***, which he has reportedly been working on for more than 30 years, has finally been given a release date: Oct. 7, 2016, according to the press release announcing **Imax Corporation**'s Q1 results (*see item on page 5*).

The documentary, much of which has been shot on 15/70 film, was first disclosed around time that Malick's last feature film, *Tree of Life*, was released in 2011. According to an article at Indiewire.com, some of the concepts in both *Tree of Life* and *Voyage of Time* originated in an unfinished project that Malick began working on in the late 1970s, tentatively named *Q*.

Voyage of Time will be released in two versions: a 40-minute giant-screen edition, narrated by **Brad Pitt** and distributed by Imax Corporation; and a two-hour feature version for multiplexes, narrated by **Cate Blanchett** and distributed by **Broad Green Pictures**. The release date for the long version has not been announced.

It is also not known whether Imax will distribute 15/70 film prints.

According to the official synopsis, "*Voyage of Time* is a celebration of life on earth and an inspirational journey from the Big Bang to the present and beyond. Science and spirit, birth and death, the grand cosmos and the minute life systems of our planet all come together in Malick's most original film to date."

Sea of Love trailer wins award

The teaser for ***Sea of Love***, a giant-screen film being shot and produced by **Pawel Achtel**, won the Golden Tripod award from the **Australian Cinematography Society** in Adelaide in May. The trailer won the Ron Taylor Award for Wildlife and Nature films.

Sea of Love has been in production for five years, and features underwater footage captured with new cameras designed by Achtel, who is based in Australia.

Roller founds VR firm

Director and cinematographer **D. J. Roller**, whose giant-screen credits include ***Wild Ocean*** (2008) and ***Great White Shark*** (2013), has co-founded **NextVR**, and is developing the first broadcast production truck designed exclusively for capturing live and recorded VR events.

Roller and co-founder **David Cole**, a technologist who holds many VR patents, have raised $30.5 million for the venture from **Comcast**, **Time Warner**, and several other organizations involved in pro sports broadcasting. Last fall, NextVR streamed the first NBA basketball game of the season in VR.

Crimes in IMAX theaters

Two IMAX theaters have recently made news for reasons they'd rather not: crimes committed by customers.

On April 15, the IMAX theater in the **Jordan's Furniture** store in Natick, MA, had to be swept by police dogs after a caller claimed that there was a bomb and a gunman inside. The theater was evacuated, but nothing was found, and normal operations resumed after 90 minutes.

In Raleigh, NC, a man was arrested after allegedly touching a woman and masturbating in the IMAX theater at the **Marbles Kids Museum** on April 27. Fred George Dravis, 60, was charged with sexual battery and indecent exposure, and is being held under a $120,000 bond.

Premiering in May and June

Captain America: Civil War

"Marvel's ***Captain America: Civil War*** finds Steve Rogers leading the newly formed team of Avengers in their continued efforts to safeguard humanity. But after another incident involving the Avengers results in collateral damage, political pressure mounts to install a system of accountability, headed by a governing body to oversee and direct the team. The new status quo fractures the Avengers, resulting in two camps — one led by Steve Rogers and his desire for the Avengers to remain free to defend humanity without government interference, and the other following Tony Stark's surprising decision to support government oversight and accountability. *Captain America: Civil War* is the first film to use the new IMAX/Arri 2D digital camera."

Captain America: Civil War

Produced and distributed by **Walt Disney Pictures**. Directed by **Anthony Russo** and **Joe Russo**. Starring **Chris Evans**, **Robert Downey Jr.**, **Scarlett Johansson**, **Don Cheadle**, **Jeremy Renner**, **Paul Bettany**, **Elizabeth Olsen**, **Paul Rudd**. DMR. Release: May 6.

Alice Through the Looking Glass

"Alice returns to the whimsical world of Wonderland and travels back in time to save the Mad Hatter."

Produced and distributed by **Walt Disney Pictures**. Directed by **James Bobin**. Starring **Johnny Depp**, **Mia Wasikowska**, **Helena Bonham Carter**, **Anne Hathaway**, **Sacha Baron Cohen**, **Rhys Ifans**. DMR. Release: May 27.

Warcraft

"***Warcraft*** is an epic adventure of world-colliding conflict based on **Blizzard Entertainment**'s global phenomenon. The peaceful realm of Azeroth stands on the brink of war and its civilization faces a fearsome race of invaders: Orc warriors fleeing their dying home to colonize another. As a portal opens to connect the two worlds, one army faces destruction and the other faces extinction. From opposing sides, two heroes are set on a collision course that will decide the fate of their family, their people, and their home. So begins a spectacular saga of power and sacrifice in which war has many faces, and everyone fights for something."

Produced by **Legendary Pictures** and distributed by **Universal Pictures**. Directed by **Duncan Jones**. Starring **Travis Fimmel**, **Paula Patton**, **Ben Foster**, **Dominic Cooper**, **Toby Kebbell**, **Ben Schnetzer**. DMR. Release: June 10.

Finding Dory

"The friendly-but-forgetful blue tang fish reunites with her loved ones, and everyone learns a few things about the true meaning of family along the way."

Produced by **Pixar Animation** and distributed by **Walt Disney Pictures**. Directed by **Andrew Stanton** and **Angus MacLane**. Starring **Ellen DeGeneres**, **Albert Brooks**, **Idris Elba**, **Bill Hader**, **Dominic West**, **Kaitlin Olson**, **Diane Keaton**, **Ed O'Neill**. DMR. Release: June 17.

Independence Day: Resurgence

"We always knew they were coming back. After *Independence Day* redefined the event movie genre, the next epic chapter delivers global catastrophe on an unimaginable scale. Using recovered alien technology, the nations of Earth have collaborated on an immense defense program to protect the planet. But nothing can prepare us for the aliens' advanced and unprecedented force. Only the ingenuity of a few brave men and women can bring our world back from the brink of extinction."

Produced and distributed by **Twentieth Century Fox**. Directed by **Roland Emmerich**. Starring **Maika Monroe**, **Liam Hemsworth**, **Joey King**, **William Fichtner**, **Judd Hirsch**, **Jeff Goldblum**, **Charlotte Gainsbourg**, **Bill Pullman**, **Vivica A. Fox**, **Sela Ward**, **Brent Spiner**. DMR. Release: June 24.

Global Soundscapes: Mission to Record the Earth

"Presented as a live and interactive performance in giant-screen theaters, ***Global Soundscapes*** takes you on an ear-opening journey into the science of sound and the exciting new field of soundscape ecology. Experience basic acoustics through fun interactive activities and incredible slow-motion footage of pulsating musical instruments, vibrating vocal cords, and slobbering raspberries. Learn how animal sounds occupy unique sonic niches in lush, orchestral soundscapes. Discover how soundscape ecology can be used to assess the biodiversity and health of global ecosystems. Ancillary components include a citizen science program, gamified website, and inquiry-based curriculum."

Produced by **Foxfire Interactive** and **Masters Digital**, and distributed by Foxfire Interactive. Produced by **Brad Lisle** and **Tim Archer**, photographed by **Marcus Lehman**, **Sean White**, **Michael Lienau**, and **Jason Sturgis**. Executive producer: Brad Lisle. 2D. Release: June.

Walt Disney Pictures

Bookings: May-June 2016 by Film

726 bookings of 79 films in 279 theaters

These listings to not include Hollywood films shown in multiplex IMAX theaters. Those films are listed when they are shown in non-multiplex theaters, and conversely, non-Hollywood giant-screen films showing on multiplex IMAX screens are also listed.

Listings shown in **bold face** below are new or updated listings. The rest are unchanged from the previous month's issue.

The data on the following pages are ***not*** warranted to be comprehensive or accurate in every detail, despite our best efforts to make them so. They have been compiled from theater surveys, distributors, the Web, and other sources.

We will make every effort to improve the thoroughness, and accuracy of these data. If your theater or film is not shown here, please get in touch with us to update our listings.

Where a date is not shown, it means that no date was provided by the source or, in the case of a closing date, that no date has been set, or that the run is indefinite.

The key to film abbreviations is on page 25.

Film	Theater	Open	Close
AirRacer	Hutchinson	1/1/15	12/31/16
AIWC	Chandigarh	9/5/14	9/4/16
AJ	Kolkata SC	1/16	
Amazon	Shanghai 3D STM	8/31/15	8/30/16
	Syracuse MOST	**4/1/16**	**5/31/17**
AMMM	**Gatineau**	**10/15**	**10/16**
Animalop	Pittsburgh CSC	1/1/10	
BeauPlan	**Albuquerque Reg**	**4/29/16**	**5/12/16**
	Altamonte AMC	**4/29/16**	**5/12/16**
	Anchorage Reg	**4/29/16**	**5/12/16**
	Atlanta FMNH	**4/29/16**	
	Atlanta Reg	**4/29/16**	**5/12/16**
	Atlantic City	**4/29/16**	**5/12/16**
	Austin TSHM	**4/29/16**	
	Baltimore AMC	**4/29/16**	**5/12/16**
	Baton Rouge AMC	**4/29/16**	**5/12/16**
	Beavercreek Cmk	**4/29/16**	**5/12/16**
	Bellingham Reg	**4/29/16**	**5/12/16**
	Bensalem AMC	**4/29/16**	**5/12/16**
	Boston AMC	**4/29/16**	**5/12/16**
	Branson	**4/29/16**	**5/12/16**
	Brooklyn SB Reg	**4/29/16**	**5/12/16**
	Buford Reg	**4/29/16**	**5/12/16**
	Burbank AMC	**4/29/16**	**5/12/16**
	Calgary Lan	**4/29/16**	**5/12/16**
	Charleston SEC	**4/29/16**	**5/12/16**
	Charlotte DP	**4/29/16**	
	Chattanooga TA	**4/29/16**	
	Cherry Hill AMC	**4/29/16**	**5/12/16**
	Chicago Imx	**4/29/16**	
	Cleveland	**4/29/16**	
	Clifton AMC	**4/29/16**	**5/12/16**
	Col Springs Cmk	**4/29/16**	**5/12/16**
	Columbus LTC AMC	**4/29/16**	**5/12/16**
	Concord AMC	**4/29/16**	**5/12/16**
	Copenhagen TBP	**4/29/16**	
	Corpus Christi Cmk	**4/29/16**	**5/12/16**
	Cumming AMC	**4/29/16**	**5/12/16**
	Danbury AMC	**4/29/16**	**5/12/16**
	Deer Park Reg	**4/29/16**	**5/12/16**
	Denver MNS	**4/29/16**	
	Des Moines	**4/29/16**	
	Dublin Reg	**4/29/16**	**5/12/16**
	Eatontown AMC	**4/29/16**	**5/12/16**
	Edmonton TWS	**4/29/16**	
	Emeryville AMC	**4/29/16**	**5/12/16**
	Farmingdale Reg	**4/29/16**	**5/19/16**
	Fayetteville Car	**4/29/16**	**5/12/16**
	Fort Lauderdale	**4/29/16**	
	Fort Myers Reg	**4/29/16**	**5/12/16**
	Franklin Car	**4/29/16**	**5/12/16**
	Fresno Reg	**4/29/16**	**5/12/16**
	Frisco AMC	**4/29/16**	**5/12/16**
	Gaithersburg AMC	**4/29/16**	**5/12/16**
	Grand Blanc NCG	**4/29/16**	**5/12/16**
	Grand Rapids Cel	**4/29/16**	**5/12/16**
	Hampton VASC	**4/29/16**	**5/12/16**
	Harahan AMC	**4/29/16**	**5/12/16**
	Highlands Ranch AMC	**4/29/16**	**5/12/16**
	Homestead AMC	**4/29/16**	**5/12/16**
	Hooksett Zya	**4/29/16**	**5/12/16**
	Houston GP AMC	**4/29/16**	**5/12/16**
	Houston Reg	**4/29/16**	**5/12/16**
	Huntsville USSRC	**4/29/16**	
	Indianapolis Imx	**4/29/16**	
	Irvine Reg	**4/29/16**	**5/12/16**
	Jersey City	**4/29/16**	
	Kansas City AMC	**4/29/16**	**5/12/16**
	King of Prussia Reg	**4/29/16**	**5/12/16**
	Knoxville Reg	**4/29/16**	**5/12/16**
	KSC 1	**4/29/16**	
	Lancaster Cmk	**4/29/16**	**5/12/16**
	Lansing Cel	**4/29/16**	**5/12/16**
	Las Vegas RR Reg	**4/29/16**	**5/12/16**
	Leawood AMC	**4/29/16**	**5/12/16**
	Lititz Pen	**4/29/16**	**5/12/16**
	Livonia AMC	**4/29/16**	**5/12/16**
	London SM	**4/29/16**	
	Long Beach Reg	**4/29/16**	**5/12/16**
	Los Angeles CSC	**4/29/16**	
	Lynnwood AMC	**4/29/16**	**5/12/16**
	Manchester Cmk	**4/29/16**	**5/12/16**
	Melbourne MV	**4/29/16**	
	Mesquite AMC	**4/29/16**	**5/12/16**
	Methuen AMC	**4/29/16**	**5/12/16**
	Miami Beach Reg	**4/29/16**	**5/12/16**
	Miami Cob	**4/29/16**	**5/12/16**
	Miami Reg	**4/29/16**	**5/12/16**
	Milford Cmk	**4/29/16**	**5/12/16**
	Montreal SC	**4/29/16**	
	Moore WT	**4/29/16**	**5/12/16**
	Nashville Reg	**4/29/16**	**5/12/16**
	Natick JF	**4/29/16**	**5/12/16**
	New Rochelle Reg	**4/29/16**	**5/12/16**
	New York 34 AMC	**4/29/16**	**5/12/16**
	New York KB AMC	**4/29/16**	**5/12/16**
	Noblesville GQT	**4/29/16**	**5/12/16**
	Norwalk MA	**4/29/16**	
	Oklahoma City AMC	**4/29/16**	**5/12/16**
	Oldsmar AMC	**4/29/16**	**5/12/16**
	Omaha OP AMC	**4/29/16**	**5/12/16**
	Ontario Reg	**4/29/16**	**5/12/16**
	Orange AMC	**4/29/16**	**5/12/16**
	Orange Park AMC	**4/29/16**	**5/12/16**
	Orlando P Reg	**4/29/16**	**5/12/16**
	Panama City ST	**4/29/16**	**5/12/16**
	Phoenix DV AMC	**4/29/16**	**5/12/16**
	Portage GQT	**4/29/16**	**5/12/16**
	Portland Reg	**4/29/16**	**5/12/16**
	Providence Sho	**4/29/16**	**5/12/16**
	Raleigh	**4/29/16**	
	Reading JF	**4/29/16**	**5/12/16**
	Regina	**4/29/16**	
	Rockaway AMC	**4/29/16**	**5/12/16**
	Sacramento Imx	**4/29/16**	**5/12/16**
	Saint Augustine	**4/29/16**	
	Saint Louis SC	**4/29/16**	
	Saint Paul SMM	**4/29/16**	
	Salt Lake City Clark	**4/29/16**	**5/12/16**
	San Antonio 3D AMC	**4/29/16**	**5/12/16**
	San Antonio San	**4/29/16**	**5/12/16**
	San Diego MV AMC	**4/29/16**	**5/12/16**
	San Diego Reg	**4/29/16**	**5/12/16**
	San Francisco AMC	**4/29/16**	**5/12/16**
	San Jose Tech	**4/29/16**	
	Sandy Meg	**4/29/16**	**5/12/16**
	Savoy GQT	**4/29/16**	**5/12/16**
	Schererville AMC	**4/29/16**	**5/12/16**
	Seattle PSC 2	**4/29/16**	
	Shreveport	**4/29/16**	
	Skokie AMC	**4/29/16**	**5/12/16**
	South Barrington AMC	**4/29/16**	**5/12/16**
	South Miami AMC	**4/29/16**	**5/12/16**
	Stony Brook AMC	**4/29/16**	**5/12/16**
	Sudbury	**4/29/16**	
	Syracuse Reg	**4/29/16**	**5/12/16**
	Tallahassee CLC	**4/29/16**	
	Tampa MOSI	**4/29/16**	
	Tempe Har	**4/29/16**	**5/12/16**
	Tomball San	**4/29/16**	**5/12/16**
	Toronto OSC	**4/29/16**	
	Torrance AMC	**4/29/16**	**5/12/16**
	Tulsa AMC	**4/29/16**	**5/12/16**
	Victoria DCI	**4/29/16**	
	Washington NASM	**4/29/16**	
	West Melbourne Car	**4/29/16**	**5/12/16**
	West Nyack AMC	**4/29/16**	**5/12/16**
	West Palm Beach Muv	**4/29/16**	**5/12/16**
	Wichita WT	**4/29/16**	**5/12/16**
	Wilmington DE Penn	**4/29/16**	**5/12/16**
	Winston-Salem ST	**4/29/16**	**5/12/16**
	Woodland Hills AMC	**4/29/16**	**5/12/16**
Bugs	Calgary TS	9/28/15	9/28/16
	Columbus COSI	9/15/14	6/30/16
	Detroit MSC	**5/14/16**	**8/15/16**
	Edmonton TWS	12/26/13	6/30/16
	Fort Worth	**2/1/16**	**1/8/17**
	Phoenix ASC	4/22/16	10/6/16
	Raleigh	7/5/14	6/30/16
	San Diego RHF	7/1/14	6/30/16
	Vancouver TWS	3/11/06	6/30/16
CRA	Alexandria BA		12/31/16
	Fort Worth	1/5/15	5/27/16
	Hartberg	**3/25/15**	**6/1/16**
	Philadelphia FI	**6/1/16**	**8/30/16**
	Pittsburgh CSC	10/1/15	7/1/16
CV	Alexandria BA	10/1/13	12/31/16
	Alexandria BA		12/31/16
D-Day	Chantilly		6/30/16
	Chicago MSI	5/23/14	6/30/16
	Cleveland	5/8/15	5/22/16
	Columbus COSI	5/23/14	6/30/16
	Columbus GA NIM	5/23/14	5/22/16
	Davenport Put	6/6/15	
	Dayton	5/24/14	6/30/16
	Erie	11/11/15	7/7/16
	Hampton VASC	5/23/14	5/22/16
	Hangzhou Bro	6/1/15	6/6/16
	Harrisburg	6/6/15	
	Hutchinson	4/21/14	12/31/16
	London BFI	5/8/15	
	Louisville KSC	5/23/14	7/31/16
	Paris Geo	4/2/14	6/30/16
	Pensacola NAM	10/1/14	
	Peoria RM	4/2/15	
	Phoenix ASC	5/15/15	
	Pittsburgh CSC	5/15/15	12/31/16
	Portland OMSI	3/16	3/17
	Raleigh	5/23/14	2/1/17
	Saint Louis SC	5/16/16	11/15/16
	Spokane RP	4/1/16	9/3/16
	Sudbury	5/30/16	6/1/17
	Tallahassee CLC	6/5/15	6/30/16
	Vancouver TWS	11/7/15	11/11/16
	Washington NASM	5/23/14	6/30/16
DIA	Hartberg	3/25/15	6/1/16
DinoAliv	Detroit MSC	10/17/15	10/31/16
	Houston MNS	12/15/15	6/30/17
	Port of Spain	9/1/15	9/30/16
	Portland OMSI	5/23/14	5/30/16
	Tampa MOSI	1/30/16	6/30/17
	Vancouver TWS	2/29/16	6/30/16
	Washington NMNH	5/15/15	5/31/16
Dolphins	**Beijing Dome CSTM**	**1/1/15**	**6/1/16**
	Boston MOS	4/9/16	10/9/16
	Fort Worth	**5/28/16**	**12/31/17**
	Gatineau	7/17/15	12/31/16
	Hague	**10/11/11**	**7/1/16**
	Speyer Dome		12/31/16
	Syracuse MOST	**4/1/16**	**5/31/17**
DPTP	Killeen	5/12	5/16
	Louisville KSC	6/14	7/16
Dragons	Guayaquil	5/1/14	12/31/16
	Victoria DCI	5/1/15	5/31/16
DSC	Dearborn THF	3/25/16	3/25/17
	Milwaukee	10/6/15	6/30/16
	Raleigh	1/16/15	1/15/17
Everest	Baltimore MSC	9/15/15	9/14/16
	Hague	5/8/15	5/9/16
	Hartberg	3/25/15	6/1/16
	Spokane RP	4/1/15	9/30/16
FightPil	Chantilly	12/10/04	7/16
	Corpus Christi Lex	**5/12/12**	**7/17**
	Dayton	3/1/13	6/30/17
	Huntsville USSRC	7/1/13	7/1/17
	McMinnville	3/23/12	7/1/17
	Seattle PSC 2	6/14/13	6/14/16
FOTB	Apple Valley Imx	6/5/15	12/31/16
	Austin TSHM	10/1/15	10/31/16
	Baton Rouge LASM	9/1/15	8/31/16
	Calgary TS	6/28/13	12/31/16
	Chicago MSI	2/28/14	6/30/16
	Cincinnati MC	2/14/13	6/30/16
	Cleveland	11/27/13	6/30/16
	Columbus COSI	9/1/14	6/30/16
	Davenport Put	2/15/13	6/30/16
	Edmonton TWS	12/26/13	6/30/16
	Gatineau	10/5/12	6/30/16
	Hamaoka	4/1/16	5/31/16
	Hampton VASC	3/29/13	6/30/16

Film	Theater	Open	Close
	Harrisburg	2/2/14	6/30/16
	Hastings	3/17/13	6/30/16
	Houston MNS	10/4/12	12/31/16
	London BFI	9/6/13	1/31/17
	Louisville KSC	9/30/12	6/30/16
	Lubbock SS	3/11/16	6/30/16
	Melbourne MV	3/21/13	9/16/16
	Memphis Pink	**3/1/14**	**5/27/17**
	Norwalk MA	5/22/15	10/7/16
	Nuremberg	11/19/14	6/30/16
	Orlando SC	3/1/14	6/30/16
	Peoria RM	4/1/16	8/26/16
	Pittsburgh CSC	3/15/13	6/30/16
	Portland OMSI	1/7/15	6/30/16
	Raleigh	10/19/12	6/30/16
	Richmond SMV	**5/1/13**	**6/30/17**
	Sacramento Imx	8/13/13	6/30/16
	Saint Augustine	1/18/13	12/31/16
	Salt Lake City Clark	2/8/13	8/6/16
	San Antonio 3D AMC	5/15/15	5/14/16
	San Diego RHF	10/12/12	9/30/16
	San Jose Tech	2/9/13	6/30/16
	Shanghai 3D STM	1/1/16	12/31/16
	Syracuse MOST	7/4/15	7/3/16
	Taichung NMNS	7/1/15	6/30/16
	Tallahassee CLC	1/18/13	6/30/16
	Toronto SB Cpx	**10/31/13**	**6/30/16**
	Valencia Spn	7/1/15	6/30/16
	Vancouver TWS	6/16/13	6/30/16
	Victoria DCI	4/5/13	6/30/16
	Washington NMNH	10/5/12	1/13/17
G3DNW	Al Khobar	8/20/15	8/21/16
	Apple Valley Imx	**10/3/14**	**4/28/17**
	Berlin CS	4/20/14	10/9/16
	Boston NEA	2/15/16	12/31/16
	Budapest CC	**4/24/14**	**5/21/17**
	Davenport Put	10/17/14	10/16/16
	Denver MNS	8/1/15	7/31/16
	Gatineau	10/10/14	6/30/16
	Guayaquil	**4/20/14**	**5/4/17**
	Hartford CSC	**11/27/15**	**7/1/16**
	Hastings	2/10/15	6/12/16
	Indianapolis Imx	9/21/15	6/12/16
	Katowice CC	6/18/14	9/19/16
	Krakow CC	6/18/14	9/19/16
	Kuwait SCK	**10/3/14**	**7/6/16**
	Lodz CC	6/18/14	9/19/16
	Louisville KSC	6/18/15	6/17/16
	Lucerne	**6/5/14**	**12/4/16**
	Melbourne MV	**4/11/16**	**4/10/17**
	Moscow BFC	10/6/14	10/31/16
	Nuremberg	**10/15/14**	**11/20/16**
	Omaha Zoo	**8/1/15**	**7/31/16**
	Orlando SC	7/5/14	1/4/17
	Poznan CC	6/18/14	9/19/16
	Prague CC	**5/22/14**	**5/21/17**
	Saint Augustine	**4/1/15**	**4/30/17**
	Seattle PSC 2	11/20/15	4/30/17
	Singapore DC	**5/1/15**	**6/30/16**
	Warsaw CC	6/18/14	9/19/16
GC	Grand Canyon DCI	11/1/99	12/16
GCA	Harrisburg	11/1/14	12/31/16
	Indianapolis Imx	3/11/16	12/31/16
	Mexicali	5/21/15	5/20/16
	Shanghai 3D STM		6/1/16
	Sinsheim	10/31/09	12/31/16
	Spokane RP	5/1/15	12/31/16
GreatApe	Parker	1/30/16	7/29/16
Greece	Baltimore MSC	9/15/15	9/14/16
	Gatineau		12/31/16
Gruffalo	**Saint Augustine**	**1/1/15**	**12/31/16**
GruffChi	**Saint Augustine**	**2/1/15**	**12/31/16**
	Sudbury	**2/1/16**	**12/31/16**
GWS	Boston NEA	5/31/13	6/30/17
	Charlotte DP	5/9/15	5/31/16
	Galveston	6/28/14	12/31/16
	New Orleans	10/6/15	6/30/16
	Portland OMSI	11/16/15	12/31/16
	Saint Augustine	8/9/13	9/8/16
	Seattle PSC 1	9/19/14	9/19/16
	Sioux Falls	1/30/15	6/30/16
	Sudbury	3/3/16	3/31/17
	Tallahassee CLC	6/15/13	6/30/16
	Tampa MOSI	1/1/16	12/31/16
	Virginia Beach AMSC	5/29/14	6/30/16
HCBTD	San Simeon DCI	8/17/96	
HidUniv	Athens Eug	3/20/15	6/1/16
	Glasgow	5/2/14	6/1/16
	London SM	10/18/13	6/1/16
	Orlando SC	**6/13/14**	**6/1/16**
	Raleigh	11/7/14	6/1/16
	Taipei AM	7/1/15	6/30/16
	Tallahassee CLC	2/14/14	6/1/16
	Valencia Spn	4/1/14	6/30/16
	Washington NASM	**1/30/14**	**6/1/16**
HOTB	Dongguan STM	3/1/16	2/28/17
HumpbWha	Austin TSHM	2/13/15	12/31/16
	Baltimore MSC	7/1/15	6/30/16
	Boston NEA	2/13/15	6/1/16
	Chicago MSI	5/29/15	5/28/16
	Columbus COSI	6/1/15	3/10/17
	Copenhagen TBP	10/8/15	10/7/16
	Davenport Put	**6/1/16**	**6/1/17**
	Dearborn THF	2/13/15	6/13/16
	Denver MNS	6/5/15	6/4/16
	Edmonton TWS	10/2/15	10/1/16
	Galveston	5/23/15	5/22/16
	Hague	**6/28/16**	**6/17/17**
	Houston MNS	3/13/15	3/15/17
	Los Angeles CSC	7/3/15	7/2/16
	Memphis Pink	3/7/15	6/1/16
	Monterrey Pap	2/23/16	6/22/16
	Norwalk MA	**2/13/15**	**5/26/16**
	Nuremberg	**4/30/15**	**6/1/16**
	Orlando SC	2/13/15	6/1/16
	Paris Geo	7/7/15	7/6/16
	Philadelphia FI	6/20/15	6/19/16
	Pittsburgh CSC	**6/17/16**	**6/16/17**
	Raleigh	**3/20/15**	**3/1/17**
	Regina	11/20/15	11/19/16
	Richmond SMV	3/14/15	6/1/16
	Saint Paul SMM	10/9/15	10/8/16
	Seattle PSC 2	4/27/15	5/15/16
	Sinsheim	5/21/15	5/20/16
	Sudbury	9/24/15	10/6/16
	Sydney WBS	**4/23/15**	**6/1/16**
	Tallahassee CLC	2/20/15	6/1/16
	Toronto OSC	5/15/15	5/14/16
	Vancouver TWS	10/9/15	10/8/16
	Victoria DCI	6/19/15	6/18/16
	Virginia Beach AMSC	9/8/15	9/7/16
Jerusale	Chicago Imx	2/19/16	9/1/16
	Des Moines	7/1/15	6/30/16
	Fort Worth	3/21/16	5/1/16
	Hague	3/31/14	6/30/16
	Harrisburg	10/18/14	10/31/16
	Lucerne	7/1/15	6/30/16
	Milwaukee	10/9/15	6/30/16
	Peoria RM	11/14/15	11/13/16
	Pittsburgh CSC	3/7/14	12/31/16
	Portland OMSI	11/18/13	11/20/16
	Saint Louis SC	10/4/13	6/3/16
	Saint Paul SMM	1/8/16	9/5/16
	San Diego RHF	11/20/15	10/31/16
	Speyer Dome	12/12/13	12/11/16
	Tallahassee CLC	11/15/14	11/27/16
	Valencia Spn	4/1/15	6/30/16
JIAC	Baltimore MSC	9/15/15	9/14/16
	Gatineau	7/17/15	12/31/16
JMCSO	Columbus COSI	9/25/15	5/30/16
	Copenhagen TBP	6/25/15	6/25/16
	Dearborn THF	2/27/15	12/31/16
	Denver MNS	8/14/15	8/14/16
	Edmonton TWS	5/20/16	11/20/16
	Galveston	3/6/15	3/6/17
	Gatineau	9/4/15	9/30/16
	Guayaquil	4/15/16	4/14/17
	Hangzhou LCSTM	1/1/16	12/31/16
	Hastings	2/11/16	2/11/17
	Houston MNS	5/22/15	5/22/16
	Keelung NMMST	1/1/16	12/31/16
	Kuwait SCK	7/17/15	7/17/16
	Lucerne	3/17/16	3/16/17
	Memphis Pink	6/25/16	6/23/17
	New Orleans	2/12/16	2/2/17
	Phoenix ASC	2/12/16	7/28/16
	Poitiers Solido	2/1/16	12/31/16
	Portland OMSI	2/20/15	2/27/17
	Saint Augustine	1/1/16	1/1/17
	Tallahassee CLC	8/14/15	8/14/16
	Virginia Beach AMSC	6/16/15	6/13/16
	Washington NMNH	3/20/15	3/20/17
JTM	Edmonton TWS	12/26/13	6/30/16
	Johor Bahru TGV	9/17/15	8/31/16
	London BFI		**1/31/17**
	Penang TGV	9/17/15	8/31/16
	Petaling Jaya SP TGV	9/17/15	8/31/16
	Petaling Jaya Ut TGV	9/17/15	8/31/16
JTS	Albuquerque NMMNH	4/30/16	4/30/17
	Chantilly	5/1/15	5/1/17
	Charlotte DP	9/19/15	9/19/16
	Cincinnati MC	10/9/15	10/9/16
	Columbus GA NIM	12/4/15	12/4/16
	Copenhagen TBP	3/26/15	6/22/16
	Corpus Christi Lex	**5/22/15**	**6/16/16**
	Dayton	3/6/15	3/5/17
	Denver MNS	8/14/15	8/14/16
	Des Moines	3/1/15	5/31/16
	Hampton VASC	**2/21/15**	**2/20/17**
	Harrisburg	9/14/15	6/30/17
	Houston MNS	10/1/15	10/1/16
	Houston SCH	3/14/15	3/17/17
	Huntsville USSRC	2/13/15	8/31/16
	Hutchinson	2/20/15	7/2/17
	Kaohsiung NSTM	1/1/16	7/31/16
	KSC 1	2/27/15	3/6/17
	Kuwait SCK	1/4/16	7/3/16
	Las Palmas	5/30/15	5/30/16
	Lehi	1/1/16	6/30/17
	Leon Exp	12/1/15	5/31/16
	Los Angeles CSC	10/29/15	9/1/16
	Memphis Pink	1/9/16	6/30/16
	New Orleans	11/19/15	11/19/16
	Orlando SC	7/2/15	12/31/16
	Oulu	11/2/15	5/1/16
	Pensacola NAM	4/1/15	5/27/16
	Peoria RM	6/11/16	12/17/16
	Philadelphia FI	6/20/15	6/20/16
	Portland OMSI	3/20/15	3/20/17
	Salt Lake City Clark	5/15/15	5/31/17
	San Diego RHF	3/27/15	7/1/16
	San Jose Tech	4/30/16	6/30/17
	Tampa MOSI	5/22/15	5/21/16
	Tijuana	4/1/16	4/1/17
	Toulouse CDE	2/1/16	1/7/17
	Washington NASM	3/6/15	
JTTSP	**Apple Valley Imx**	**5/30/15**	**9/30/16**
	Chicago Imx	**1/3/14**	**12/31/16**
	Edmonton TWS	**1/16/15**	
	Hague	7/1/14	6/30/16
	Paris Geo	5/16/14	6/1/16
	Spokane RP	5/24/15	9/30/16
	Stockholm	2/14/14	6/1/16
Kenya	Kuwait SCK	9/22/15	9/21/16
	Mexico City Pap	11/13/15	11/1/16
LastReef	Chongqing STM	9/8/15	9/10/16
	Dongguan STM	4/1/16	4/1/17
	Hutchinson	10/5/12	9/30/16
	Louisville KSC	2/8/14	6/30/16
	Salt Lake City Clark	10/9/15	8/31/16
	Sioux Falls	1/30/15	6/30/16
	Tallahassee CLC	1/17/14	6/30/16
LITAOA	Columbus COSI	10/14/15	10/13/16
	Dayton	9/8/15	9/4/16
	Denver MNS	1/29/16	12/31/16
	Des Moines	6/5/15	6/4/16
	Edmonton TWS	6/12/15	6/11/16
	Gatineau	4/18/16	4/17/17
	Harrisburg	7/22/15	7/9/16
	London BFI	10/16/15	10/15/16
	Memphis Pink	9/12/15	9/11/16
	Orlando SC	11/13/15	11/19/16
	Peoria RM	1/22/16	1/28/17
	Sacramento Imx	9/11/15	
	Saint Augustine	8/19/15	
	Saint Louis SC	1/29/16	12/31/16
	San Jose Tech	3/19/16	3/4/17
LivingSe	**Hartberg**	**10/1/13**	**7/1/16**
	Rochester MSC	7/1/15	6/30/16
LOF	McMinnville	3/23/12	6/15/17
MOF	**Pensacola NAM**	**11/8/96**	
	Speyer Dome	1/1/15	12/31/16
MOTN	Alexandria BA	10/1/13	12/31/16
	Cairo EMA	12/15/15	12/14/16
	Pittsburgh CSC		12/31/16
MOTUW	Aguascalientes	1/18/16	6/17/16
	Bradford	4/12/14	6/30/16
	Calgary TS	7/1/14	
	Copenhagen TBP	6/19/14	6/18/16
	Dearborn THF	3/25/16	3/25/17
	Detroit MSC	10/7/15	10/6/16
	Garden City	9/2/14	9/1/16
	Gatineau	1/15/16	6/30/16
	Hague	10/1/15	9/16
	Hampton VASC	9/18/15	9/17/16
	Kuwait SCK	1/30/14	7/31/16
	Lubbock SS	9/18/15	9/17/16
	Mexicali	11/20/15	5/31/16
	Mobile	1/5/16	5/29/16
	Montreal SC	9/18/15	9/17/16
	Pittsburgh CSC	1/2/14	12/31/16
	Poitiers Imax 3D	2/1/16	1/31/17
	Raleigh	11/1/15	12/31/16
	Spokane RP	4/1/16	12/31/16
	Stockholm	9/18/15	9/1/16
	Sydney WBS	2/14/14	
	Taichung NMNS	7/1/15	6/30/16
	Valencia Spn	7/1/14	6/30/16
	Victoria DCI	10/9/15	10/8/16
	Virginia Beach AMSC	2/1/16	2/11/17
ND	New Delhi ICC		
Niagara	Niagara Can DCI	7/1/86	
	Niagara NY DCI	5/1/07	
NPA	Atlanta FMNH	2/12/16	
	Austin TSHM	2/12/16	
	Baltimore MSC	6/20/16	
	Birmingham AL	5/20/16	
	Boston MOS	2/12/16	
	Branson	3/18/16	9/5/16
	Charlotte DP	5/20/16	
	Chattanooga TA	2/12/16	

Film	Theater	Open	Close
	Chicago MSI	2/12/16	
	Cincinnati MC	2/12/16	
	Columbus COSI	2/12/16	
	Columbus GA NIM	4/16/16	
	Copenhagen TBP	2/12/16	
	Dallas PMNS	5/27/16	
	Davenport Put	2/12/16	
	Dearborn THF	3/25/16	
	Des Moines	2/12/16	
	Detroit MSC	2/12/16	
	Edmonton TWS	2/12/16	
	Fort Lauderdale	2/12/16	
	Fort Worth	2/12/16	
	Galveston	3/5/16	
	Garza Garcia	6/23/16	
	Hague	2/16/16	
	Hampton VASC	4/29/16	4/28/17
	Hastings	**6/9/16**	**6/8/17**
	Houston MNS	2/12/16	
	Hutchinson	2/19/16	
	Indianapolis Imx	2/12/16	
	Jersey City	2/12/16	
	Kansas City Sci	**5/31/16**	**5/30/17**
	Leon Exp	**6/1/16**	**12/1/16**
	London BFI	2/12/16	
	Los Angeles CSC	2/12/16	
	Louisville KSC	2/12/16	
	Lubbock SS	5/20/16	
	Lucerne	3/17/16	
	Melbourne MV	2/25/16	
	Memphis Pink	3/5/16	
	Mexico City Pap	3/18/16	
	New York AMNH	2/12/16	
	Norwalk MA	5/27/16	
	Nuremberg	3/3/16	
	Omaha Zoo	2/12/16	
	Orlando SC	2/12/16	
	Osaka Exp 109	**5/21/16**	**6/11/16**
	Philadelphia FI	2/20/16	
	Pittsburgh CSC	2/12/16	
	Portland OMSI	2/12/16	
	Raleigh	2/27/16	
	Regina	2/12/16	
	Richmond SMV	4/10/16	
	Sacramento Imx	2/19/16	
	Saint Augustine	2/12/16	
	Saint Louis SC	2/12/16	
	Saint Paul SMM	3/4/16	
	Salt Lake City Clark	2/12/16	
	San Diego RHF	3/18/16	
	San Jose Tech	2/12/16	
	Seattle PSC 2	2/12/16	
	Shreveport	2/12/16	
	Sinsheim	3/4/16	
	Sudbury	2/12/16	
	Sydney WBS	2/25/16	
	Tallahassee CLC	2/19/16	
	Tampa MOSI	2/12/16	
	Tijuana	2/19/16	
	Vancouver TWS	2/12/16	
	Victoria DCI	2/12/16	
	Virginia Beach AMSC	2/12/16	
	Washington NMNH	2/12/16	
	Yellowstone	5/1/16	
	Zion	2/12/16	
OO	Birmingham AL	6/15/15	6/30/16
Ozarks	Branson	9/93	12/16
PTJH	Bogota Mal	5/22/15	5/21/16
	Charlotte DP	11/14/15	5/31/16
	Chicago Imx	2/13/15	12/12/16
	Hague	6/9/15	6/16
	Harrisburg	1/24/15	1/9/17
	Hastings	6/1/15	5/31/16
	Hutchinson	12/18/15	12/17/16
	Kuwait SCK	4/17/15	5/17/16
	Lucerne	9/18/14	6/30/16
	Melbourne MV	6/18/15	5/31/16
	Tijuana	10/17/15	10/16/16
RATW	Birmingham AL	6/15/15	6/30/16
Rescue	McMinnville	6/1/12	12/31/16
Rheged	Penrith	7/1/00	
RME	Pittsburgh CSC	11/26/14	11/25/16
RobotsNG	Albuquerque NMMNH	9/5/15	9/4/16
	Birmingham AL	1/22/16	9/30/16
	Bradford	9/4/15	12/31/16
	Cleveland	11/1/15	10/1/16
	Columbus COSI	1/15/16	1/14/17
	Davenport Put	11/1/15	10/31/16
	Dearborn THF	3/25/16	3/25/17
	Denver MNS	3/18/16	2/28/17
	Erie	2/6/16	2/28/17
	Hampton VASC	6/20/15	6/19/16
	Houston MNS	10/2/15	10/1/16
	Huntsville USSRC	6/5/15	6/4/16
	Jersey City	6/5/15	6/4/16
	Kansas City Sci	6/5/15	6/4/16
	Lehi	6/5/15	6/4/16
	London SM	5/23/15	5/22/16
	Orlando SC	6/13/15	6/4/16
	Pittsburgh CSC	9/4/15	9/3/16
	San Jose Tech	10/3/15	10/2/16
	Sioux Falls	3/4/16	
	Tallahassee CLC	10/16/15	10/15/16
	Valencia Spn	3/11/16	3/10/17
ROTB	**Saint Augustine**	**10/3/15**	**12/31/16**
SeaRex	Keelung NMMST	1/1/16	12/31/16
	Penrith	9/7/15	8/1/16
Sharks3D	Puebla	4/1/16	4/1/17
SpaceNex	Columbus GA NIM	12/4/15	12/31/16
	Copenhagen TBP	12/17/15	9/15/16
	Huntsville USSRC	**3/1/16**	**8/31/16**
SpacJunk	Al Khobar	1/15/15	7/16/16
TA	Baltimore MSC	4/1/15	6/30/16
	Davenport Put	1/1/16	12/31/16
	Fort Worth	3/12/16	9/30/16
	Harrisburg	10/8/14	6/30/16
	Houston MNS	1/1/15	7/31/16
	Kansas City Sci	9/25/15	5/31/16
	Memphis Pink	3/8/14	6/30/16
	Vulcania	3/13/16	11/30/16
TinyGian	Columbus COSI	3/1/15	9/30/16
	Davenport Put	9/25/15	9/25/16
	Erie	9/8/15	9/30/16
	Hastings	9/24/15	9/30/16
	Melbourne MV	9/17/15	9/30/16
	Raleigh	9/19/15	9/30/16
	Seattle PSC 1	9/12/15	9/12/16
ToFly	Washington NASM	3/7/16	12/31/17
TOTIA	Branson	5/22/15	5/30/16
	Harrisburg	10/18/14	6/30/16
	Hastings	2/1/13	6/30/16
	Houston MNS	1/22/13	7/31/16
	Hutchinson	3/1/13	6/30/16
	Kuwait SCK	11/18/14	9/30/16
	London SM	3/1/16	9/30/16
	Louisville KSC	11/28/13	6/30/16
	Phoenix ASC	8/20/15	8/31/16
	Saint Félicien	5/1/14	5/31/16
	Sioux Falls	6/30/15	6/30/16
TTA	**Apple Valley Imx**	**1/1/14**	**9/30/16**
	Chicago Imx	**9/30/13**	**12/31/16**
	Cleveland		12/31/16
	Copenhagen TBP	**8/1/15**	**6/1/16**
	Paris Geo	**10/6/15**	**6/1/16**
	Vancouver TWS		6/30/16
VanGogh	Hague	9/1/15	7/1/16
	Peoria RM	3/22/16	2/1/17
Vikings	Gatineau	12/1/15	12/31/16
Vulcania	Vulcania	2/22/02	
WATE	Katoomba	6/1/97	
WildAfri	Al Khobar	4/15/16	4/30/17
	Albuquerque NMMNH	12/19/15	12/31/16
	Apple Valley Imx	2/1/16	6/30/17
	Birmingham AL	3/18/16	2/15/17
	Boston MOS	11/20/15	11/30/16
	Fort Lauderdale	10/1/15	9/30/16
	Montreal SC	12/1/15	12/31/16
	Montreal SC	12/18/15	12/31/16
	Orlando SC	3/12/16	3/31/17
	Portland OMSI	12/11/15	12/31/16
WildCats	Lucerne	11/5/15	11/4/16
	New Orleans	**5/27/16**	**11/27/16**
WM	Austin TSHM	3/1/16	12/31/16
	Dearborn THF	3/25/16	12/31/16
	Edmonton TWS	4/22/16	12/31/16
	Guayaquil	4/20/16	4/19/17
	Harrisburg	10/18/14	6/30/16
	Hastings	7/3/15	12/31/16
	Louisville KSC	2/8/14	7/31/16
	Portland OMSI	10/1/15	5/31/17
	Seattle PSC 1	5/29/15	5/28/16
	Sudbury	4/1/16	12/31/16
	Victoria DCI	5/1/15	5/31/16
WOTA	Al Khobar	6/1/15	6/30/16
	Atlanta FMNH	10/2/15	10/31/16
	Hutchinson	8/28/14	9/30/16
	Lubbock SS	11/13/15	11/30/16
WTTR3D	Port of Spain	9/1/15	9/30/16
WWDPP3D	Bradford	9/16/15	9/30/16
	Columbus COSI	9/15/14	5/31/16
	Edmonton TWS	5/1/15	5/31/16
	Gatineau	2/28/16	2/28/17
	Melbourne MV	10/1/15	9/30/16
	Memphis Pink	5/21/15	6/30/16
	Milwaukee	2/1/16	6/30/17
	Parker	3/26/16	9/30/16
	Peoria RM	2/1/15	5/31/16
	Portland OMSI	8/22/14	8/31/16
	Sioux Falls	9/25/15	9/30/16
	Virginia Beach AMSC	6/30/15	6/30/16
Yell	Yellowstone	5/1/14	12/31/16
ZionCany	Zion	7/1/08	

May-June 2016 by Theater

Theater	Film	Open	Close
Aguascalientes	MOTUW	1/18/16	6/17/16
Al Khobar	G3DNW	8/20/15	8/21/16
	SpacJunk	1/15/15	7/16/16
	WildAfri	4/15/16	4/30/17
	WOTA	6/1/15	6/30/16
Albuquerque NMMNH	JTS	4/30/16	4/30/17
	RobotsNG	9/5/15	9/4/16
	WildAfri	12/19/15	12/31/16
Albuquerque Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Alexandria BA	CRA		12/31/16
	CV	10/1/13	12/31/16
	CV		12/31/16
	MOTN	10/1/13	12/31/16
Altamonte AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Anchorage Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Apple Valley Imx	FOTB	6/5/15	12/31/16
	G3DNW	**10/3/14**	**4/28/17**
	JTTSP	**5/30/15**	**9/30/16**
	TTA	**1/1/14**	**9/30/16**
	WildAfri	2/1/16	6/30/17
Athens Eug	HidUniv	3/20/15	6/1/16
Atlanta FMNH	**BeauPlan**	**4/29/16**	
	NPA	2/12/16	
	WOTA	10/2/15	10/31/16
Atlanta Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Atlantic City	**BeauPlan**	**4/29/16**	**5/12/16**
Austin TSHM	**BeauPlan**	**4/29/16**	
	FOTB	10/1/15	10/31/16
	HumpbWha	2/13/15	12/31/16
	NPA	2/12/16	
	WM	3/1/16	12/31/16
Baltimore AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Baltimore MSC	Everest	9/15/15	9/14/16
	Greece	9/15/15	9/14/16
	HumpbWha	7/1/15	6/30/16
	JIAC	9/15/15	9/14/16
	NPA	6/20/16	
	TA	4/1/15	6/30/16
Baton Rouge AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Baton Rouge LASM	FOTB	9/1/15	8/31/16
Beavercreek Cmk	**BeauPlan**	**4/29/16**	**5/12/16**
Beijing Dome CSTM	**Dolphins**	**1/1/15**	**6/1/16**
Bellingham Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Bensalem AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Berlin CS	G3DNW	4/20/14	10/9/16
Birmingham AL	NPA	5/20/16	
	OO	6/15/15	6/30/16
	RATW	6/15/15	6/30/16
	RobotsNG	1/22/16	9/30/16
	WildAfri	3/18/16	2/15/17
Bogota Mal	PTJH	5/22/15	5/21/16
Boston AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Boston MOS	Dolphins	4/9/16	10/9/16
	NPA	2/12/16	
	WildAfri	11/20/15	11/30/16
Boston NEA	G3DNW	2/15/16	12/31/16
	GWS	5/31/13	6/30/17
	HumpbWha	2/13/15	6/1/16
Bradford	MOTUW	4/12/14	6/30/16
	RobotsNG	9/4/15	12/31/16
	WWDPP3D	9/16/15	9/30/16
Branson	**BeauPlan**	**4/29/16**	**5/12/16**
	NPA	3/18/16	9/5/16
	Ozarks	9/93	12/16
	TOTIA	5/22/15	5/30/16
Brooklyn SB Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Budapest CC	**G3DNW**	**4/24/14**	**5/21/17**
Buford Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Burbank AMC	**BeauPlan**	**4/29/16**	**5/12/16**

Theater	Film	Open	Close
Cairo EMA	MOTN	12/15/15	12/14/16
Calgary Lan	**BeauPlan**	**4/29/16**	**5/12/16**
Calgary TS	Bugs	9/28/15	9/28/16
	FOTB	6/28/13	12/31/16
	MOTUW	7/1/14	
Chandigarh	AIWC	9/5/14	9/4/16
Chantilly	D-Day		6/30/16
	FightPil	12/10/04	7/16
	JTS	5/1/15	5/1/17
Charleston SEC	**BeauPlan**	**4/29/16**	**5/12/16**
Charlotte DP	**BeauPlan**	**4/29/16**	
	GWS	5/9/15	5/31/16
	JTS	9/19/15	9/19/16
	NPA	5/20/16	
	PTJH	11/14/15	5/31/16
Chattanooga TA	**BeauPlan**	**4/29/16**	
	NPA	2/12/16	
Cherry Hill AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Chicago Imx	**BeauPlan**	**4/29/16**	
	Jerusale	2/19/16	9/1/16
	JTTSP	**1/3/14**	**12/31/16**
	PTJH	2/13/15	12/12/16
	TTA	**9/30/13**	**12/31/16**
Chicago MSI	D-Day	5/23/14	6/30/16
	FOTB	2/28/14	6/30/16
	HumpbWha	5/29/15	5/28/16
	NPA	2/12/16	
Chongqing STM	LastReef	9/8/15	9/10/16
Cincinnati MC	FOTB	2/14/13	6/30/16
	JTS	10/9/15	10/9/16
	NPA	2/12/16	
Cleveland	**BeauPlan**	**4/29/16**	
	D-Day	5/8/15	5/22/16
	FOTB	11/27/13	6/30/16
	RobotsNG	11/1/15	10/1/16
	TTA		12/31/16
Clifton AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Col Springs Cmk	**BeauPlan**	**4/29/16**	**5/12/16**
Columbus COSI	Bugs	9/15/14	6/30/16
	D-Day	5/23/14	6/30/16
	FOTB	9/1/14	6/30/16
	HumpbWha	6/1/15	3/10/17
	JMCSO	9/25/15	5/30/16
	LITAOA	10/14/15	10/13/16
	NPA	2/12/16	
	RobotsNG	1/15/16	1/14/17
	TinyGian	3/1/15	9/30/16
	WWDPP3D	9/15/14	5/31/16
Columbus GA NIM	D-Day	5/23/14	5/22/16
	JTS	12/4/15	12/4/16
	NPA	4/16/16	
	SpaceNex	12/4/15	12/31/16
Columbus LTC AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Concord AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Copenhagen TBP	**BeauPlan**	**4/29/16**	
	HumpbWha	10/8/15	10/7/16
	JMCSO	6/25/15	6/25/16
	JTS	3/26/15	6/22/16
	MOTUW	6/19/14	6/18/16
	NPA	2/12/16	
	SpaceNex	12/17/15	9/15/16
	TTA	**8/1/15**	**6/1/16**
Corpus Christi Cmk	**BeauPlan**	**4/29/16**	**5/12/16**
Corpus Christi Lex	**FightPil**	**5/12/12**	**7/17**
	JTS	**5/22/15**	**6/16/16**
Cumming AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Dallas PMNS	NPA	5/27/16	
Danbury AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Davenport Put	D-Day	6/6/15	
	FOTB	2/15/13	6/30/16
	G3DNW	10/17/14	10/16/16
	HumpbWha	**6/1/16**	**6/1/17**
	NPA	2/12/16	
	RobotsNG	11/1/15	10/31/16
	TA	1/1/16	12/31/16
	TinyGian	9/25/15	9/25/16
Dayton	D-Day	5/24/14	6/30/16
	FightPil	3/1/13	6/30/17
	JTS	3/6/15	3/5/17
	LITAOA	9/8/15	9/4/16
Dearborn THF	DSC	3/25/16	3/25/17
	HumpbWha	2/13/15	6/13/16
	JMCSO	2/27/15	12/31/16
	MOTUW	3/25/16	3/25/17
	NPA	3/25/16	
	RobotsNG	3/25/16	3/25/17
	WM	3/25/16	12/31/16
Deer Park Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Denver MNS	**BeauPlan**	**4/29/16**	
	G3DNW	8/1/15	7/31/16
	HumpbWha	6/5/15	6/4/16
	JMCSO	8/14/15	8/14/16
	JTS	8/14/15	8/14/16
	LITAOA	1/29/16	12/31/16
	RobotsNG	3/18/16	2/28/17
Des Moines	**BeauPlan**	**4/29/16**	
	Jerusale	7/1/15	6/30/16
	JTS	3/1/15	5/31/16
	LITAOA	6/5/15	6/4/16
	NPA	2/12/16	
Detroit MSC	**Bugs**	**5/14/16**	**8/15/16**
	DinoAliv	10/17/15	10/31/16
	MOTUW	10/7/15	10/6/16
	NPA	2/12/16	
Dongguan STM	HOTB	3/1/16	2/28/17
	LastReef	4/1/16	4/1/17
Dublin Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Eatontown AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Edmonton TWS	**BeauPlan**	**4/29/16**	
	Bugs	12/26/13	6/30/16
	FOTB	12/26/13	6/30/16
	HumpbWha	10/2/15	10/1/16
	JMCSO	5/20/16	11/20/16
	JTM	12/26/13	6/30/16
	JTTSP	**1/16/15**	
	LITAOA	6/12/15	6/11/16
	NPA	2/12/16	
	WM	4/22/16	12/31/16
	WWDPP3D	5/1/15	5/31/16
Emeryville AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Erie	D-Day	11/11/15	7/7/16
	RobotsNG	2/6/16	2/28/17
	TinyGian	9/8/15	9/30/16
Farmingdale Reg	**BeauPlan**	**4/29/16**	**5/19/16**
Fayetteville Car	**BeauPlan**	**4/29/16**	**5/12/16**
Fort Lauderdale	**BeauPlan**	**4/29/16**	
	NPA	2/12/16	
	WildAfri	10/1/15	9/30/16
Fort Myers Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Fort Worth	**Bugs**	**2/1/16**	**1/8/17**
	CRA	1/5/15	5/27/16
	Dolphins	**5/28/16**	**12/31/17**
	Jerusale	3/21/16	5/1/16
	NPA	2/12/16	
	TA	3/12/16	9/30/16
Franklin Car	**BeauPlan**	**4/29/16**	**5/12/16**
Fresno Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Frisco AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Gaithersburg AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Galveston	GWS	6/28/14	12/31/16
	HumpbWha	5/23/15	5/22/16
	JMCSO	3/6/15	3/6/17
	NPA	3/5/16	
Garden City	MOTUW	9/2/14	9/1/16
Garza Garcia	NPA	6/23/16	
Gatineau	**AMMM**	**10/15**	**10/16**
	Dolphins	7/17/15	12/31/16
	FOTB	10/5/12	6/30/16
	G3DNW	10/10/14	6/30/16
	Greece		12/31/16
	JIAC	7/17/15	12/31/16
	JMCSO	9/4/15	9/30/16
	LITAOA	4/18/16	4/17/17
	MOTUW	1/15/16	6/30/16
	Vikings	12/1/15	12/31/16
	WWDPP3D	2/28/16	2/28/17
Glasgow	HidUniv	5/2/14	6/1/16
Grand Blanc NCG	**BeauPlan**	**4/29/16**	**5/12/16**
Grand Canyon DCI	GC	11/1/99	12/16
Grand Rapids Cel	**BeauPlan**	**4/29/16**	**5/12/16**
Guayaquil	Dragons	5/1/14	12/31/16
	G3DNW	**4/20/14**	**5/4/17**
	JMCSO	4/15/16	4/14/17
	WM	4/20/16	4/19/17
Hague	**Dolphins**	**10/11/11**	**7/1/16**
	Everest	5/8/15	5/9/16
	HumpbWha	**6/28/16**	**6/17/17**
	Jerusale	3/31/14	6/30/16
	JTTSP	7/1/14	6/30/16
	MOTUW	10/1/15	9/16
	NPA	2/16/16	
	PTJH	6/9/15	6/16
	VanGogh	9/1/15	7/1/16
Hamaoka	FOTB	4/1/16	5/31/16
Hampton VASC	**BeauPlan**	**4/29/16**	**5/12/16**
	D-Day	5/23/14	5/22/16
	FOTB	3/29/13	6/30/16
	JTS	**2/21/15**	**2/20/17**
	MOTUW	9/18/15	9/17/16
	NPA	4/29/16	4/28/17
	RobotsNG	6/20/15	6/19/16
Hangzhou Bro	D-Day	6/1/15	6/6/16
Hangzhou LCSTM	JMCSO	1/1/16	12/31/16
Harahan AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Harrisburg	D-Day	6/6/15	
	FOTB	2/2/14	6/30/16
	GCA	11/1/14	12/31/16
	Jerusale	10/18/14	10/31/16
	JTS	9/14/15	6/30/17
	LITAOA	7/22/15	7/9/16
	PTJH	1/24/15	1/9/17
	TA	10/8/14	6/30/16
	TOTIA	10/18/14	6/30/16
	WM	10/18/14	6/30/16
Hartberg	**CRA**	**3/25/15**	**6/1/16**
	DIA	3/25/15	6/1/16
	Everest	3/25/15	6/1/16
	LivingSe	**10/1/13**	**7/1/16**
Hartford CSC	**G3DNW**	**11/27/15**	**7/1/16**
Hastings	FOTB	3/17/13	6/30/16
	G3DNW	2/10/15	6/12/16
	JMCSO	2/11/16	2/11/17
	NPA	**6/9/16**	**6/8/17**
	PTJH	6/1/15	5/31/16
	TinyGian	9/24/15	9/30/16
	TOTIA	2/1/13	6/30/16
	WM	7/3/15	12/31/16
Highlands Ranch AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Homestead AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Hooksett Zya	**BeauPlan**	**4/29/16**	**5/12/16**
Houston GP AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Houston MNS	DinoAliv	12/15/15	6/30/17
	FOTB	10/4/12	12/31/16
	HumpbWha	3/13/15	3/15/17
	JMCSO	5/22/15	5/22/16
	JTS	10/1/15	10/1/16
	NPA	2/12/16	
	RobotsNG	10/2/15	10/1/16
	TA	1/1/15	7/31/16
	TOTIA	1/22/13	7/31/16
Houston Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Houston SCH	JTS	3/14/15	3/17/17
Huntsville USSRC	**BeauPlan**	**4/29/16**	
	FightPil	7/1/13	7/1/17
	JTS	2/13/15	8/31/16
	RobotsNG	6/5/15	6/4/16
	SpaceNex	**3/1/16**	**8/31/16**
Hutchinson	AirRacer	1/1/15	12/31/16
	D-Day	4/21/14	12/31/16
	JTS	2/20/15	7/2/17
	LastReef	10/5/12	9/30/16
	NPA	2/19/16	
	PTJH	12/18/15	12/17/16
	TOTIA	3/1/13	6/30/16
	WOTA	8/28/14	9/30/16
Indianapolis Imx	**BeauPlan**	**4/29/16**	
	G3DNW	9/21/15	6/12/16
	GCA	3/11/16	12/31/16
	NPA	2/12/16	
Irvine Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Jersey City	**BeauPlan**	**4/29/16**	
	NPA	2/12/16	
	RobotsNG	6/5/15	6/4/16
Johor Bahru TGV	JTM	9/17/15	8/31/16
Kansas City AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Kansas City Sci	**NPA**	**5/31/16**	**5/30/17**
	RobotsNG	6/5/15	6/4/16
	TA	9/25/15	5/31/16
Kaohsiung NSTM	JTS	1/1/16	7/31/16
Katoomba	WATE	6/1/97	
Katowice CC	G3DNW	6/18/14	9/19/16
Keelung NMMST	JMCSO	1/1/16	12/31/16
	SeaRex	1/1/16	12/31/16
Killeen	DPTP	5/12	5/16
King of Prussia Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Knoxville Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Kolkata SC	AJ	1/16	
Krakow CC	G3DNW	6/18/14	9/19/16
KSC 1	**BeauPlan**	**4/29/16**	
	JTS	2/27/15	3/6/17
Kuwait SCK	**G3DNW**	**10/3/14**	**7/6/16**
	JMCSO	7/17/15	7/17/16
	JTS	1/4/16	7/3/16
	Kenya	9/22/15	9/21/16
	MOTUW	1/30/14	7/31/16
	PTJH	4/17/15	5/17/16
	TOTIA	11/18/14	9/30/16
Lancaster Cmk	**BeauPlan**	**4/29/16**	**5/12/16**
Lansing Cel	**BeauPlan**	**4/29/16**	**5/12/16**
Las Palmas	JTS	5/30/15	5/30/16
Las Vegas RR Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Leawood AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Lehi	JTS	1/1/16	6/30/17
	RobotsNG	6/5/15	6/4/16
Leon Exp	JTS	12/1/15	5/31/16
	NPA	**6/1/16**	**12/1/16**
Lititz Pen	**BeauPlan**	**4/29/16**	**5/12/16**
Livonia AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Lodz CC	G3DNW	6/18/14	9/19/16
London BFI	D-Day	5/8/15	
	FOTB	9/6/13	1/31/17
	JTM		**1/31/17**
	LITAOA	10/16/15	10/15/16
	NPA	2/12/16	
London SM	**BeauPlan**	**4/29/16**	
	HidUniv	10/18/13	6/1/16
	RobotsNG	5/23/15	5/22/16
	TOTIA	3/1/16	9/30/16
Long Beach Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Los Angeles CSC	**BeauPlan**	**4/29/16**	
	HumpbWha	7/3/15	7/2/16
	JTS	10/29/15	9/1/16
	NPA	2/12/16	
Louisville KSC	D-Day	5/23/14	7/31/16
	DPTP	6/14	7/16
	FOTB	9/30/12	6/30/16
	G3DNW	6/18/15	6/17/16

Theater	Film	Open	Close
	LastReef	2/8/14	6/30/16
	NPA	2/12/16	
	TOTIA	11/28/13	6/30/16
	WM	2/8/14	7/31/16
Lubbock SS	FOTB	3/11/16	6/30/16
	MOTUW	9/18/15	9/17/16
	NPA	5/20/16	
	WOTA	11/13/15	11/30/16
Lucerne	**G3DNW**	**6/5/14**	**12/4/16**
	Jerusale	7/1/15	6/30/16
	JMCSO	3/17/16	3/16/17
	NPA	3/17/16	
	PTJH	9/18/14	6/30/16
	WildCats	11/5/15	11/4/16
Lynnwood AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Manchester Cmk	**BeauPlan**	**4/29/16**	**5/12/16**
McMinnville	FightPil	3/23/12	7/1/17
	LOF	3/23/12	6/15/17
	Rescue	6/1/12	12/31/16
Melbourne MV	**BeauPlan**	**4/29/16**	
	FOTB	3/21/13	9/16/16
	G3DNW	**4/11/16**	**4/10/17**
	NPA	2/25/16	
	PTJH	6/18/15	5/31/16
	TinyGian	9/17/15	9/30/16
	WWDPP3D	10/1/15	9/30/16
Memphis Pink	**FOTB**	**3/1/14**	**5/27/17**
	HumpbWha	3/7/15	6/1/16
	JMCSO	6/25/16	6/23/17
	JTS	1/9/16	6/30/16
	LITAOA	9/12/15	9/11/16
	NPA	3/5/16	
	TA	3/8/14	6/30/16
	WWDPP3D	5/21/15	6/30/16
Mesquite AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Methuen AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Mexicali	GCA	5/21/15	5/20/16
	MOTUW	11/20/15	5/31/16
Mexico City Pap	Kenya	11/13/15	11/1/16
	NPA	3/18/16	
Miami Beach Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Miami Cob	**BeauPlan**	**4/29/16**	**5/12/16**
Miami Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Milford Cmk	**BeauPlan**	**4/29/16**	**5/12/16**
Milwaukee	DSC	10/6/15	6/30/16
	Jerusale	10/9/15	6/30/16
	WWDPP3D	2/1/16	6/30/17
Mobile	MOTUW	1/5/16	5/29/16
Monterrey Pap	HumpbWha	2/23/16	6/22/16
Montreal SC	**BeauPlan**	**4/29/16**	
	MOTUW	9/18/15	9/17/16
	WildAfri	12/1/15	12/31/16
	WildAfri	12/18/15	12/31/16
Moore WT	**BeauPlan**	**4/29/16**	**5/12/16**
Moscow BFC	G3DNW	10/6/14	10/31/16
Nashville Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Natick JF	**BeauPlan**	**4/29/16**	**5/12/16**
New Delhi ICC	ND		
New Orleans	GWS	10/6/15	6/30/16
	JMCSO	2/12/16	2/2/17
	JTS	11/19/15	11/19/16
	WildCats	**5/27/16**	**11/27/16**
New Rochelle Reg	**BeauPlan**	**4/29/16**	**5/12/16**
New York 34 AMC	**BeauPlan**	**4/29/16**	**5/12/16**
New York AMNH	NPA	2/12/16	
New York KB AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Niagara Can DCI	Niagara	7/1/86	
Niagara NY DCI	Niagara	5/1/07	
Noblesville GQT	**BeauPlan**	**4/29/16**	**5/12/16**
Norwalk MA	**BeauPlan**	**4/29/16**	
	FOTB	5/22/15	10/7/16
	HumpbWha	**2/13/15**	**5/26/16**
	NPA	5/27/16	
Nuremberg	FOTB	11/19/14	6/30/16
	G3DNW	**10/15/14**	**11/20/16**
	HumpbWha	**4/30/15**	**6/1/16**
	NPA	3/3/16	
Oklahoma City AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Oldsmar AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Omaha OP AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Omaha Zoo	**G3DNW**	**8/1/15**	**7/31/16**
	NPA	2/12/16	
Ontario Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Orange AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Orange Park AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Orlando P Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Orlando SC	FOTB	3/1/14	6/30/16
	G3DNW	7/5/14	1/4/17
	HidUniv	**6/13/14**	**6/1/16**
	HumpbWha	2/13/15	6/1/16
	JTS	7/2/15	12/31/16
	LITAOA	11/13/15	11/19/16
	NPA	2/12/16	
	RobotsNG	6/13/15	6/4/16
	WildAfri	3/12/16	3/31/17
Osaka Exp 109	**NPA**	**5/21/16**	**6/11/16**
Oulu	JTS	11/2/15	5/1/16
Panama City ST	**BeauPlan**	**4/29/16**	**5/12/16**
Paris Geo	D-Day	4/2/14	6/30/16
	HumpbWha	7/7/15	7/6/16
	JTTSP	5/16/14	6/1/16
	TTA	**10/6/15**	**6/1/16**
Parker	GreatApe	1/30/16	7/29/16
	WWDPP3D	3/26/16	9/30/16
Penang TGV	JTM	9/17/15	8/31/16
Penrith	Rheged	7/1/00	
	SeaRex	9/7/15	8/1/16
Pensacola NAM	D-Day	10/1/14	
	JTS	4/1/15	5/27/16
	MOF	**11/8/96**	
Peoria RM	D-Day	4/2/15	
	FOTB	4/1/16	8/26/16
	Jerusale	11/14/15	11/13/16
	JTS	6/11/16	12/17/16
	LITAOA	1/22/16	1/28/17
	VanGogh	3/22/16	2/1/17
	WWDPP3D	2/1/15	5/31/16
Petaling Jaya SP TGV	JTM	9/17/15	8/31/16
Petaling Jaya Ut TGV	JTM	9/17/15	8/31/16
Philadelphia FI	**CRA**	**6/1/16**	**8/30/16**
	HumpbWha	6/20/15	6/19/16
	JTS	6/20/15	6/20/16
	NPA	2/20/16	
Phoenix ASC	Bugs	4/22/16	10/6/16
	D-Day	5/15/15	
	JMCSO	2/12/16	7/28/16
	TOTIA	8/20/15	8/31/16
Phoenix DV AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Pittsburgh CSC	Animalop	1/1/10	
	CRA	10/1/15	7/1/16
	D-Day	5/15/15	12/31/16
	FOTB	3/15/13	6/30/16
	HumpbWha	**6/17/16**	**6/16/17**
	Jerusale	3/7/14	12/31/16
	MOTN		12/31/16
	MOTUW	1/2/14	12/31/16
	NPA	2/12/16	
	RME	11/26/14	11/25/16
	RobotsNG	9/4/15	9/3/16
Poitiers Imax 3D	MOTUW	2/1/16	1/31/17
Poitiers Solido	JMCSO	2/1/16	12/31/16
Port of Spain	DinoAliv	9/1/15	9/30/16
	WTTR3D	9/1/15	9/30/16
Portage GQT	**BeauPlan**	**4/29/16**	**5/12/16**
Portland OMSI	D-Day	3/16	3/17
	DinoAliv	5/23/14	5/30/16
	FOTB	1/7/15	6/30/16
	GWS	11/16/15	12/31/16
	Jerusale	11/18/13	11/20/16
	JMCSO	2/20/15	2/27/17
	JTS	3/20/15	3/20/17
	NPA	2/12/16	
	WildAfri	12/11/15	12/31/16
	WM	10/1/15	5/31/17
	WWDPP3D	8/22/14	8/31/16
Portland Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Poznan CC	G3DNW	6/18/14	9/19/16
Prague CC	**G3DNW**	**5/22/14**	**5/21/17**
Providence Sho	**BeauPlan**	**4/29/16**	**5/12/16**
Puebla	Sharks3D	4/1/16	4/1/17
Raleigh	**BeauPlan**	**4/29/16**	
	Bugs	7/5/14	6/30/16
	D-Day	5/23/14	2/1/17
	DSC	1/16/15	1/15/17
	FOTB	10/19/12	6/30/16
	HidUniv	11/7/14	6/1/16
	HumpbWha	**3/20/15**	**3/1/17**
	MOTUW	11/1/15	12/31/16
	NPA	2/27/16	
	TinyGian	9/19/15	9/30/16
Reading JF	**BeauPlan**	**4/29/16**	**5/12/16**
Regina	**BeauPlan**	**4/29/16**	
	HumpbWha	11/20/15	11/19/16
	NPA	2/12/16	
Richmond SMV	**FOTB**	**5/1/13**	**6/30/17**
	HumpbWha	3/14/15	6/1/16
	NPA	4/10/16	
Rochester MSC	LivingSe	7/1/15	6/30/16
Rockaway AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Sacramento Imx	**BeauPlan**	**4/29/16**	**5/12/16**
	FOTB	8/13/13	6/30/16
	LITAOA	9/11/15	
	NPA	2/19/16	
Saint Augustine	**BeauPlan**	**4/29/16**	
	FOTB	1/18/13	12/31/16
	G3DNW	**4/1/15**	**4/30/17**
	Gruffalo	**1/1/15**	**12/31/16**
	GruffChi	**2/1/15**	**12/31/16**
	GWS	8/9/13	9/8/16
	JMCSO	1/1/16	1/1/17
	LITAOA	8/19/15	
	NPA	2/12/16	
	ROTB	**10/3/15**	**12/31/16**
Saint Félicien	TOTIA	5/1/14	5/31/16
Saint Louis SC	**BeauPlan**	**4/29/16**	
	D-Day	5/16/16	11/15/16
	Jerusale	10/4/13	6/3/16
	LITAOA	1/29/16	12/31/16
	NPA	2/12/16	
Saint Paul SMM	**BeauPlan**	**4/29/16**	
	HumpbWha	10/9/15	10/8/16
	Jerusale	1/8/16	9/5/16
	NPA	3/4/16	
Salt Lake City Clark	**BeauPlan**	**4/29/16**	**5/12/16**
	FOTB	2/8/13	8/6/16
	JTS	5/15/15	5/31/17
	LastReef	10/9/15	8/31/16
	NPA	2/12/16	
San Antonio 3D AMC	**BeauPlan**	**4/29/16**	**5/12/16**
	FOTB	5/15/15	5/14/16
San Antonio San	**BeauPlan**	**4/29/16**	**5/12/16**
San Diego MV AMC	**BeauPlan**	**4/29/16**	**5/12/16**
San Diego Reg	**BeauPlan**	**4/29/16**	**5/12/16**
San Diego RHF	Bugs	7/1/14	6/30/16
	FOTB	10/12/12	9/30/16
	Jerusale	11/20/15	10/31/16
	JTS	3/27/15	7/1/16
	NPA	3/18/16	
San Francisco AMC	**BeauPlan**	**4/29/16**	**5/12/16**
San Jose Tech	**BeauPlan**	**4/29/16**	
	FOTB	2/9/13	6/30/16
	JTS	4/30/16	6/30/17
	LITAOA	3/19/16	3/4/17
	NPA	2/12/16	
	RobotsNG	10/3/15	10/2/16
San Simeon DCI	HCBTD	8/17/96	
Sandy Meg	**BeauPlan**	**4/29/16**	**5/12/16**
Savoy GQT	**BeauPlan**	**4/29/16**	**5/12/16**
Schererville AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Seattle PSC 1	GWS	9/19/14	9/19/16
	TinyGian	9/12/15	9/12/16
	WM	5/29/15	5/28/16
Seattle PSC 2	**BeauPlan**	**4/29/16**	
	FightPil	6/14/13	6/14/16
	G3DNW	11/20/15	4/30/17
	HumpbWha	4/27/15	5/15/16
	NPA	2/12/16	
Shanghai 3D STM	Amazon	8/31/15	8/30/16
	FOTB	1/1/16	12/31/16
	GCA		6/1/16
Shreveport	**BeauPlan**	**4/29/16**	
	NPA	2/12/16	
Singapore DC	**G3DNW**	**5/1/15**	**6/30/16**
Sinsheim	GCA	10/31/09	12/31/16
	HumpbWha	5/21/15	5/20/16
	NPA	3/4/16	
Sioux Falls	GWS	1/30/15	6/30/16
	LastReef	1/30/15	6/30/16
	RobotsNG	3/4/16	
	TOTIA	6/30/15	6/30/16
	WWDPP3D	9/25/15	9/30/16
Skokie AMC	**BeauPlan**	**4/29/16**	**5/12/16**
South Barrington AMC	**BeauPlan**	**4/29/16**	**5/12/16**
South Miami AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Speyer Dome	Dolphins		12/31/16
	Jerusale	12/12/13	12/11/16
	MOF	1/1/15	12/31/16
Spokane RP	D-Day	4/1/16	9/3/16
	Everest	4/1/15	9/30/16
	GCA	5/1/15	12/31/16
	JTTSP	5/24/15	9/30/16
	MOTUW	4/1/16	12/31/16
Stockholm	JTTSP	2/14/14	6/1/16
	MOTUW	9/18/15	9/1/16
Stony Brook AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Sudbury	**BeauPlan**	**4/29/16**	
	D-Day	5/30/16	6/1/17
	GruffChi	**2/1/16**	**12/31/16**
	GWS	3/3/16	3/31/17
	HumpbWha	9/24/15	10/6/16
	NPA	2/12/16	
	WM	4/1/16	12/31/16
Sydney WBS	**HumpbWha**	**4/23/15**	**6/1/16**
	MOTUW	2/14/14	
	NPA	2/25/16	
Syracuse MOST	**Amazon**	**4/1/16**	**5/31/17**
	Dolphins	**4/1/16**	**5/31/17**
	FOTB	7/4/15	7/3/16
Syracuse Reg	**BeauPlan**	**4/29/16**	**5/12/16**
Taichung NMNS	FOTB	7/1/15	6/30/16
	MOTUW	7/1/15	6/30/16
Taipei AM	HidUniv	7/1/15	6/30/16
Tallahassee CLC	**BeauPlan**	**4/29/16**	
	D-Day	6/5/15	6/30/16
	FOTB	1/18/13	6/30/16
	GWS	6/15/13	6/30/16
	HidUniv	2/14/14	6/1/16
	HumpbWha	2/20/15	6/1/16
	Jerusale	11/15/14	11/27/16
	JMCSO	8/14/15	8/14/16
	LastReef	1/17/14	6/30/16
	NPA	2/19/16	
	RobotsNG	10/16/15	10/15/16
Tampa MOSI	**BeauPlan**	**4/29/16**	
	DinoAliv	1/30/16	6/30/17
	GWS	1/1/16	12/31/16
	JTS	5/22/15	5/21/16

Theater	Film	Open	Close
	NPA	2/12/16	
Tempe Har	**BeauPlan**	**4/29/16**	**5/12/16**
Tijuana	JTS	4/1/16	4/1/17
	NPA	2/19/16	
	PTJH	10/17/15	10/16/16
Tomball San	**BeauPlan**	**4/29/16**	**5/12/16**
Toronto OSC	**BeauPlan**	**4/29/16**	
	HumpbWha	5/15/15	5/14/16
Toronto SB Cpx	**FOTB**	**10/31/13**	**6/30/16**
Torrance AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Toulouse CDE	JTS	2/1/16	1/7/17
Tulsa AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Valencia Spn	FOTB	7/1/15	6/30/16
	HidUniv	4/1/14	6/30/16
	Jerusale	4/1/15	6/30/16
	MOTUW	7/1/14	6/30/16
	RobotsNG	3/11/16	3/10/17
Vancouver TWS	Bugs	3/11/06	6/30/16
	D-Day	11/7/15	11/11/16
	DinoAliv	2/29/16	6/30/16
	FOTB	6/16/13	6/30/16
	HumpbWha	10/9/15	10/8/16
	NPA	2/12/16	
	TTA		6/30/16
Victoria DCI	**BeauPlan**	**4/29/16**	
	Dragons	5/1/15	5/31/16
	FOTB	4/5/13	6/30/16
	HumpbWha	6/19/15	6/18/16
	MOTUW	10/9/15	10/8/16
	NPA	2/12/16	
	WM	5/1/15	5/31/16
Virginia Beach AMSC	GWS	5/29/14	6/30/16
	HumpbWha	9/8/15	9/7/16
	JMCSO	6/16/15	6/13/16
	MOTUW	2/1/16	2/11/17
	NPA	2/12/16	
	WWDPP3D	6/30/15	6/30/16
Vulcania	TA	3/13/16	11/30/16
	Vulcania	2/22/02	
Warsaw CC	G3DNW	6/18/14	9/19/16
Washington NASM	**BeauPlan**	**4/29/16**	
	D-Day	5/23/14	6/30/16
	HidUniv	**1/30/14**	**6/1/16**
	JTS	3/6/15	
	ToFly	3/7/16	12/31/17
Washington NMNH	DinoAliv	5/15/15	5/31/16
	FOTB	10/5/12	1/13/17
	JMCSO	3/20/15	3/20/17
	NPA	2/12/16	
West Melbourne Car	**BeauPlan**	**4/29/16**	**5/12/16**
West Nyack AMC	**BeauPlan**	**4/29/16**	**5/12/16**
West Palm Beach Muv	**BeauPlan**	**4/29/16**	**5/12/16**
Wichita WT	**BeauPlan**	**4/29/16**	**5/12/16**
Wilmington DE Penn	**BeauPlan**	**4/29/16**	**5/12/16**
Winston-Salem ST	**BeauPlan**	**4/29/16**	**5/12/16**
Woodland Hills AMC	**BeauPlan**	**4/29/16**	**5/12/16**
Yellowstone	NPA	5/1/16	
	Yell	5/1/14	12/31/16
Zion	NPA	2/12/16	
	ZionCany	7/1/08	

Key to Film Abbreviations

Film	Title	Year		Dist
AirRacer	Air Racers 3D: Forces of Flight	2012	3D	3DED
AIWC	Adventures in Wild California	2000		MFF
AJ	Amazing Journeys	1999		HMNS
Amazon	Amazon	1997		MFF
AMMM	Amazing Mighty Micro Monsters 3D	2016	3D	SER
Animalop	Animalopolis	2008	3D	K2
BeauPlan	Beautiful Planet, A	2016	3D	IMAX
Bugs	Bugs!	2003	3D	SKF
CRA	Coral Reef Adventure	2003		MFF
CV	Cosmic Voyage	1996		IMAX
D-Day	D-Day: Normandy 1944	2014	3D	3DED
DIA	Dream is Alive, The	1985		IMAX
DinoAliv	Dinosaurs Alive	2007	3D	GSF
Dolphins	Dolphins	2000		MFF
DPTP	Dinosaur Passage to Pangaea	2011	3D	CGI
Dragons	Dragons: Real Myths and Unreal Creatures	2013	3D	B&D
DSC	Deepsea Challenge 3D	2015	3D	NGD
Everest	Everest	1998		MFF
FightPil	Fighter Pilot: Operation Red Flag	2004	3D	K2
FOTB	Flight of the Butterflies	2012	3D	SKF
G3DNW	Galapagos 3D: Nature's Wonderland	2014	3D	nWP
GC	Grand Canyon: The Hidden Secrets	1985		GSF
GCA	Grand Canyon Adventure: River at Risk 3D	2008	3D	MFF
GreatApe	Great Apes 3D	2014	3D	nWP
Greece	Greece: Secrets of the Past	2006		MFF
Gruffalo	Gruffalo, The	2014	3D	B&D
GruffChi	Gruffalo's Child	2015	3D	B&D
GWS	Great White Shark	2013	3D	GSF
HCBTD	Hearst Castle: Building the Dream	1996		GSF
HidUniv	Hidden Universe	2013	3D	MFF
HOTB	Hurricane on the Bayou	2006		MFF
HumpbWha	Humpback Whales	2015	3D	MFF
Jerusale	Jerusalem	2013	3D	NGD
JIAC	Journey into Amazing Caves	2001		MFF
JMCSO	Jean-Michel Cousteau's Secret Ocean	2015	3D	3DED
JTM	Journey to Mecca	2009		SKF
JTS	Journey to Space	2015	3D	K2
JTTSP	Journey to the South Pacific	2013	3D	MFF
Kenya	Kenya 3D: Animal Kingdom	2013	3D	3DED
LastReef	Last Reef, The	2012	3D	GSF
LITAOA	Living in the Age of Airplanes	2015		NGD
LivingSe	Living Sea, The	1994		MFF
LOF	Legends of Flight	2010	3D	K2
MOF	Magic of Flight, The	1997		MFF
MOTN	Mystery of the Nile	2005		MFF
MOTUW	Mysteries of the Unseen World	2013	3D	NGD
ND	Neelkanth Darshan	2005		unk
Niagara	Niagara: Miracles, Myths, and Magic	1987		GSF
NPA	National Parks Adventure	2016	3D	MFF
OO	Ocean Oasis	2000		GSF
Ozarks	Ozarks: Legacy and Legend	1993		IMAX
PTJH	Pandas: The Journey Home	2014	3D	NGD
RATW	Ride Around the World	2006		GSF
Rescue	Rescue 3D	2011	3D	K2
Rheged	Rheged: The Lost Kingdom	2000		unk
RME	Rocky Mountain Express	2011		SLC
RobotsNG	Robots	2015	3D	NGD
ROTB	Room on the Broom	2015	3D	B&D
SeaRex	Sea Rex: Journey to a Prehistoric World	2010	3D	3DED
Sharks3D	Sharks 3D	2004	3D	3DED
SpaceNex	Space Next 3D	2015	3D	B&D
SpacJunk	Space Junk	2012	3D	K2
TA	Tornado Alley	2011	3D	GSF
TinyGian	Tiny Giants 3D	2014	3D	GSF
ToFly	To Fly!	1976		MFF
TOTIA	Titans of the Ice Age	2013	3D	GSF
TTA	To the Arctic	2012	3D	IMAX
VanGogh	Van Gogh: Brush with Genius	2009		MFF
Vikings	Vikings	2004		GSF
Vulcania	Vulcania	2002		unk
WATE	Wild Australia: The Edge	1997		MSI
WildAfri	Wild Africa 3D	2015	3D	GSF
WildCats	Wild Cats 3D	2015	3D	nWP
WM	Watermelon Magic	2013	3D	B&D
WOTA	Wonders of the Arctic	2014	3D	GSF
WTTR3D	Waking the T-Rex: The Story of Sue 3D	2010	3D	GSF
WWDPP3D	Walking With Dinosaurs: Prehistoric Planet 3D	2014	3D	GSF
Yell	Yellowstone	1994		GSF
ZionCany	Zion Canyon	1994		K2

May-June 2016 Bookings Count

#	Film	#	Film	#	Film	#	Film
145	BeauPlan	8	TA	2	Greece	1	HOTB
73	NPA	7	DinoAliv	2	GruffChi	1	LOF
44	FOTB	7	Dolphins	2	JIAC	1	ND
38	JTS	7	JTTSP	2	Kenya	1	OO
35	HumpbWha	7	LastReef	2	LivingSe	1	Ozarks
29	G3DNW	7	TinyGian	2	MOF	1	RATW
27	D-Day	6	FightPil	2	Niagara	1	Rescue
25	MOTUW	6	GCA	2	SeaRex	1	Rheged
23	JMCSO	6	JTM	2	VanGogh	1	RME
22	RobotsNG	6	TTA	2	WildCats	1	ROTB
16	Jerusale	5	CRA	1	AirRacer	1	Sharks3D
15	LITAOA	4	Everest	1	AIWC	1	SpacJunk
12	GWS	4	WOTA	1	AJ	1	ToFly
12	WWDPP3D	3	DSC	1	AMMM	1	Vikings
11	PTJH	3	MOTN	1	Animalop	1	Vulcania
11	TOTIA	3	SpaceNex	1	DIA	1	WATE
11	WM	2	Amazon	1	GC	1	WTTR3D
10	WildAfri	2	CV	1	GreatApe	1	Yell
9	Bugs	2	DPTP	1	Gruffalo	1	ZionCany
9	HidUniv	2	Dragons	1	HCBTD		

Directory of Organizations Mentioned in this Issue of LF Examiner

Distributors' abbreviations are listed in **bold.**

3D Entertainment Distribution Ltd. **3DED**
Ibex House 61-65 Baker Street
Weybridge, Surrey KT13 8AH UNITED KINGDOM
Tel: +44 20-7681-2357
Fax: +44 20-7681-2357
www.3DEfilms.com

3dlized Production Studio
20, rue Labrouste
Paris, 75015 FRANCE
Tel: +33 950 346 863
www.3dlized.com

Arri Cine Technik GmbH & Co.
Turkenstrasse 89
Munich, D-80799 GERMANY
Tel: +49 89 3809-0
www.arri.com

Atlantic Productions
Brook Green House
4 Rowan Road, Hammersmith
London, W6 7DU UNITED KINGDOM
Tel: +44 20 8735 9300
Fax: +44 20 8735 9333
www.atlanticproductions.co.uk

Bad Robot
1221 Olympic Blvd
Santa Monica, CA 90404 USA
Tel: 310 664 3456
Fax: 310 664 3457
www.badrobot.com/

BBC Worldwide
Television Centre, 101 Wood Lane
London, W127FA UNITED KINGDOM
http://bbcearth.com/

BIG & Digital **B&D**
2900 Sunridge Heights Pkwy., #1218
Henderson, NV 89052 USA
Tel: 502-212-1559
http://biganddigital.com/

Blaze Digital Cinema Works
1771 Post Road East, #164
Westport, CT 06880 USA
Tel: 203-292-5745
Fax: 203-404-4998
http://blazedigitalcinema.com/

Broad Green Pictures **BGP**
6555 W. Barton Avenue, Second Floor
Los Angeles, CA 90038 USA
www.broadgreen.com/

Bullock Texas State History Museum
1800 N Congress Avenue
Austin, TX 78701 USA
Tel: 512-936-4600
Fax: 512-475-3366
www.thestoryoftexas.com/

Camera Lucida Productions
89, rue Oberkampf
Paris, 75011 FRANCE
Tel: 33-1-49 29 51 90
www.cameralucida.fr/

Christie Digital Systems USA, Inc.
10550 Camden Drive
Cypress, CA 90630 USA
Tel: 714-236-8610
Fax: 714-229-7128
www.christiedigital.com

Cinema Group, Inc. **CGI**
464 S. Ranch Drive
Alpine, UT 84004 USA
Tel: 801-772-0860

Colossus Productions
Brook Green House
4 Rowan Road, Hammersmith
London, W6 7DU UNITED KINGDOM
Tel: +44 20 8735 9300
www.colossusproductions.co.uk/

Columbia Pictures **COL**
10202 W. Washington Blvd.
Culver City, CA 90232 USA
www.sonypictures.com/

COSI Columbus
333 West Broad Street
Columbus, OH 43215 USA
Tel: 614-228-2674
Fax: 614-228-6363
www.cosi.org

D3D Cinema
990 Grove St., Suite 200
Evanston, IL 60201 USA
Tel: 847-475-9140
Fax: 847-475-9145
www.d3dcinema.com/

Daniel M. Soref Charitable Trust
PO Box 170504
Milwaukee, WI 53217 USA
Tel: 800-234-5437

DC Entertainment
1700 Broadway, 7th Fl
New York, NY 10019 USA
Tel: 212 636 5400
www.dccomics.com

December Media
Level 1, 462 City Rd
South Melbourne, Victoria 3205 AUSTRALIA
Tel: +61-3-9699 8911
Fax: +61-3-9699-8611
www.decembermedia.com.au

Denver Museum of Nature and Science
2001 Colorado Boulevard
Denver, CO 80205-5732 USA
Tel: 303-322-7009
Fax: 303-370-6044
www.dmns.org/

Ecocine Verdon **EV**
Avenue Pierre Brossolette
Gréoux-les-Bains, 04800 FRANCE
Tel: +44 04 92 79 82 18
http://ecocine.fr/

Evans & Sutherland
770 Komas Drive
Salt Lake City, UT 84108-1229 USA
Tel: 801-588-1000
Fax: 801-588-4500
www.es.com

Foxfire Interactive Corporation
500 East Washington St, Suite 30
North Attleboro, MA 02760 USA
Tel: 508-699-6650
Fax: 508-699-6651
www.foxfireinteractive.com

Giant Screen Cinema Association
624 Holly Springs Road Suite 243
Holly Springs, NC 27540 USA
Tel: 919-346-1123
www.giantscreencinema.com

Giant Screen Films **GSF**
990 Grove St., Suite 200
Evanston, IL 60201 USA
Tel: 847-475-9140
Fax: 847-475-9145
www.gsfilms.com

Golden Gate 3D
300 California Avenue
Building Two, Treasure Island
San Francisco, CA 94130 USA
Tel: 415-779-4433
http://gg3d.com/

Happy Planet Productions
7058 Bianca Ave.
Lake Balboa, CA USA
Tel: 818-207-3037
http://happyplanetproductions.org

Houston Museum of Natural Science
5555 Hermann Park Drive
Houston, TX 77030-1799 USA
Tel: 713-639-4600
Fax: 713-523-4125
www.hmns.org

Imax Corporation **IMAX**
2525 Speakman Drive
Mississauga, ON L5K 1B1 CANADA
Tel: 905-403-6500
Fax: 905-403-6450
www.imax.com

IMERSA
, USA
www.imersa.org

K2 Communications **K2**
880 Apollo Street, Suite 239
El Segundo, CA 90245 USA
Tel: 310-524-9100
Fax: 310-524-1540
www.k2communications.com/

Lionsgate **LG**
2700 Colorado Ave., Suite 200
Santa Monica, CA 90404 USA
Tel: 310-255-3700
Fax: 310-255-3870
www.lionsgate.com

Loch Ness Productions
P. O. Box 924
Nederland, CO 80466-0924 USA
Tel: 303-642-7250
Fax: 303-642-7249
www.lochnessproductions.com

Lootch
Krasnoyarsk, RUSSIA

LucasFilm Ltd.
PO Box 2009
San Rafael, CA 94912 USA
Tel: 415-662-1800
Fax: 415-662-2437
www.lucasfilm.com

MacGillivray Freeman Films, Inc. **MFF**
PO Box 205
Laguna Beach, CA 92652 USA
Tel: 949-494-1055
Fax: 949-494-2079
www.macfreefilms.com

Marbles Kids Museum
201 E. Hargett Street
Raleigh, NC 27601 USA
Tel: 919-834-4040
Fax: 919-834-3516
www.marbleskidsmuseum.org/

Marvel Studios
1600 Rosecrans Ave
Manhattan Beach, CA 90266-3708 USA
Tel: 310-550-3100
www.marvel.com/

Master's Digital, Inc.
8867 Forest Park Dr
Saanichton, BC V8L 5A7 CANADA
Tel: 250-412-2629
www.mastersdigital.com/

Metro-Goldwyn-Mayer **MGM**
245 N Beverly Dr
Beverly Hills, CA 90210 USA
Tel: 310 449 3000
www.mgm.com/

Milwaukee Public Museum
800 West Wells Street
Milwaukee, WI 53233-2309 USA
Tel: 414-278-2700
Fax: 414-278-6100
www.mpm.edu/

Montreal Science Centre
333, rue de la Commune St. W.
Montreal, QC H2Y 4B2 CANADA
Tel: 514-283-0548
Fax: 514-283-1827
www.montrealsciencecentre.com

N3D Land Films
10 place du theatre
Sevres, 92310 FRANCE
Tel: + 33-6 88 88 87 78
www.n3dland.com/

National Air and Space Museum
6th& Independence Ave. SW
Washington, DC 20560 USA
Tel: 202-357-1675
Fax: 202-357-1652
www.nasm.si.edu/

National Geographic Cinema Ventures **NGD**
485 Lexington Avenue, 3rd Floor
New York, NY 10017 USA
Tel: 212-656-0724
Fax: 212-656-0701
http://movies.nationalgeographic.com/movies/

National Geographic Studios
1145 17th Street, NW
Washington, DC 20036 USA
Tel: 202-857-7665
Fax: 202-775-6517
http://movies.nationalgeographic.c

Directory, cont'd

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New Mexico Museum of Space History
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www.nmspacemuseum.org/

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Science Centre Singapore
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Singapore, 609081 SINGAPORE
Tel: +65-6425-2500
Fax: +65-6565-9533
www.omnitheatre.com.sg/

Science Museum of Minnesota
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Saint Paul, MN 55102 USA
Tel: 651-221-9444
Fax: 651-221-9433
www.smm.org

Science North **SN**
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Fax: 705-522-4954
www.sciencenorth.ca

SK Films, Inc. **SKF**

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Fax: 647-837-3350
www.skfilms.ca

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Fax: +49-8801-91594-250
www.skyskan.com

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Sony Pictures Entertainment **SPE**
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Greensboro, NC 27410 USA
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TCL Multimedia Technology
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Shenzhen, Guangdong CHINA
http://multimedia.tcl.com

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Universal City, CA 91608 USA
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Village Roadshow Pictures
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Walt Disney Studios Motion Pictures **WDPD**
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SHORTS

Imax opens fitness studio

Imax Corporation has expanded its business interests to the world of fitness training centers, with the April opening in Brooklyn, NY, of **IMAXShift**, an "immersive group cycling concept built around the primary components of the IMAX Experience," according to a press release. The pilot studio, which can accommodate up to 50 riders simultaneously, features a 25x40-foot (7.6x12.2-meter) screen, an IMAX projection and sound system, and "IMAX's patented theater geometry." Riders cycle to imagery that includes (but is not limited to) footage from giant-screen films, compiled by the instructor leading the class.

IMAXShift fitness center in Brooklyn.

The opening generated a flurry of media reports, some of which speculated on IMAXShift's business model in the crowded $24 billion fitness industry. CBS cited an expert in the business who said, "Spinning seems like a long-term trend. [But] do people like soul cycling? Do they like the fly wheel? Do they like the IMAX concept?"

TheVerge.com's **Dami Lee** tried an IMAXShift class and asked, "What's the point of an IMAX spin class if it doesn't make me forget that I'm in a spin class? Taking a 25x40-foot screen and playing some default screen savers felt like a massive underutilization of the technology. There were so many possibilities here and they squandered it. We could have cycled to ***Star Wars: The Force Awakens*** — or if that's too long, then only the scenes with Finn and Poe. Whatever." She also found the sound system "underwhelming."

In a call with analysts, IMAX CEO **Richard Gelfond** said the idea "has a lot of promise," but added, "if the numbers don't work satisfactorily, we won't roll it out."

Submit films, award noms to GSCA

The **Giant Screen Cinema Association** is now accepting award nominations and film submissions for its annual fall conference and trade show, to be held in Toronto, ON, Canada, Oct. 4–6. Registration for the conference is now open, with reduced pricing before Aug. 5.

Nominations for film, marketing, and education awards are open until July 15. There are seven film award categories, including Best Film, Short Subject; Best Cinematography; and Best Film for Lifelong Learning. Four other award categories include Best Film Launch by a Theater and Best Educational Program by a Theater.

Submissions for new films to be screened at the meeting must be received by June 24. Submissions for films in production or development are due by July 1.

For more information on registering or submitting films or nominations, visit giantscreencinema.com.

Star Trek bows outdoors in IMAX

The world premiere of ***Star Trek Beyond*** will be held on July 20 in San Diego's Embarcadero Marina Park South, in a temporary outdoor IMAX theater, as part of the **Comic-Con** conference. According to a press release, the red carpet event is the first-ever open-air IMAX world premiere, and will feature appearances by director **Justin Lin** and cast members, as well as a live concert performance of the film's score by the San Diego Symphony Orchestra.

Produced by **Bad Robot** and distributed by **Paramount Pictures**, *Star Trek Beyond* will open in conventional and IMAX theaters on July 22.

Kempf wins Sports Emmy

"Of Miracles and Men," an episode of ESPN's *30 for 30* documentary TV series, has won the 2016 Sports Emmy for Outstanding Long Sports Documentary. The film's senior producer was **Don Kempf**, president of **Giant Screen Films** and **D3D Cinema**.

Originally aired in February 2015 and directed by nine-time Emmy winner **Jonathan Hock**, the 103-minute film looks at one of the greatest sports upsets of all time — the U.S. hockey team's win at the 1980 Winter Olympics in Lake Placid, NY — from the point of view of the losing Russian team. It examines how they had been built up as the feared Big Red Machine, and the effect the loss had on the rest of the players' lives.

Amelia Krales

Jacobsen's book for museums

John Jacobsen, president of **White Oak Associates**, has published ***Measuring Museum Impact and Performance***, a book that looks at techniques and methods for measuring the impact that museums have. Recognizing that funding sources are becoming scarcer and/or more focused on measurable results for their contributions, the 170-page book outlines the theory and practice of identifying key performance indicators and other means of quantifying the effects museums have on visitors and the larger society.

Published by **Rowman & Littlefield**, the book is available in hardbound, paperback, and e-book versions. For more information or to order a copy, visit bit.ly/1Weuuta.

*(see **SHORTS** on page 18)*